LITERATURE OF MANUFACTURERS

Catalogues, bulletins and direct advertising material recently issued. Manufacturers are requested to send copies of new trade literature promptly to Electric Refrigeration News.

Bishop & Babcock

A pamphlet issued by the Bishop & Babcock Sales Co., Cleveland, Ohio, describes their thermolectric switch designed for use in connection with small refrigerating apparatus, oil burners, and hot water heaters. Photographs showing exterior, cross sectional and diagrammatic views are included.

Carbonice

The Carbonice Co., New York, N. Y., is distributing a folder illustrating a device for the manufacture for Carbonice, a snow-like refrigerant with a temperature of 114 degrees Fahrenheit below zero. This Carbonicer solidifies carbon dioxide and produces a refrigerant which can be used for packing ice cream in small containers.

Holderle Bros.

Photographs and specifications of Honor-Bilt soda fountains are contained in a folder issued by Holderle Bros., Inc., Rochester, N. Y. A twelve-foot and a six-foot model, both with electrical refrigeration, are illustrated.

Ice-O-Lator

Four all porcelain cabinets and a water cooler for use with Ice-O-Lator gas unit are described in a folder issued by the National Refrigerator Co., New Haven, Conn. In addition the folder contains an illustration of a 4 tray ice cube assembly and three photographs of gas units.

Kelvinator

The home service department of Kelvinator has issued a booklet entitled, "How Electricity Is Used for Preservation of Food," and a book, "Presenting Kelvinator to the Utility Woman." In the booklet the operation of the electric refrigerator is explained in a non-technical style. The book presents material to assist utility home service workers in selling electric refrigeration.

Monel

A copy of the fall edition of List B has been received from the International Nickel Co., New York, N. Y. This folder contains a listing of all available literature on the properties and applications of Monel metal and nickel.

Vilter

A folder has been issued which describes the self-contained units offered by the Vilter Manufacturing Co., Milwaukee, Wis. Units ranging in size from 1 to 6 tons are described in the folder. In addition photographs of the machines and principal parts are included along with general specifications.

York

Three bulletins have been received from the York Ice Machinery Corp., York, Pa., describing their line of dairy refrigeration equipment. Two bulletins describe the surface type milk and cream coolers and plate type heat exchanger, while the third is devoted to a small refrigerating unit offered by York.

CONVENTION DATES

American Society of Refrigerating Engineers, New York, N. Y., Dec. 3-5, David L. Fiske, Secy., 33 W. 39th St., New York, N. Y.

National Association of Ice Industries, Book-Cadillac Hotel, Detroit, Mich., Nov. 13-16, Leslie L. Smith, Secy., 163 W. Washington St., Chicago, Ill.

National Association of Practical Refrigerating Engineers, Louisville, Kentucky Nov 20-23, E. H. Fox, Secy., 5707 W. Lake St., Chicago, Ill.

National Electrical Manufacturers Association, Apparatus Division, Briarcliff Lodge, Briarcliff, N. Y., Oct. 29-Nov. 1, A. E. Waller, Secy., 420 Lexington Ave., New York, N. Y.

National Electrical Wholesalers Association, Chicago, Ill., Nov. 12-16, E. Donald Tolles, Mng. Director, 165 Broadway, New York, N. Y.

Electro-Kold Exhibit to be Shown at Pacific Coast Fairs This Fall

A complete display of Electro-Kold refrigerators shown at the Spokane Interstate Fair, Spokane, Wash., Sept. 3-8, appears above. The exhibit includes an installation of the Electro-Kold horizontal pipe cooling unit in a display case. Special lighting effects were used to emphasize the colored cabinets. The layout of this exhibit will be used for all the important state fairs on the Pacific Coast this fall.

"PLEASE CHANGE MY ADDRESS"

Recent movements of Electric Refrigeration News subscribers as indicated by requests for changes in mailing addresses.

Black, J. E., from 775 E. Madison St., to 905 Belmont, Springfield, Mo.

Brady, Joseph F., Jr., from Chestnut Arms Apts., 41st and Chestnut Sts., to 4506 Sansom St., Philadelphia, Pa.

Bryant, F. L., from 33 Third St., Johnson City, N. Y., to c/o Bryant Electric Refrig. Corp., New Milford, Pa.

Clark, Louis, from 55 Navy St., Ocean Park, Calif., to 4807½ St. Elma Drive, Los Angeles, Calif.

Dance, W. C., from 1014 South Boston, to 625 S. Main, Tulsa, Okla.

Delzeith, A. N., from 85-37 Britton Ave., Elmhurst, N. Y., to 16517 Clifton Blvd., Lakewood, O.

Ever-Kold Mfg. Co., from 116 Key Highway, Baltimore, Md., to Aberdeen, Md.

Fleischer, F. O., from Excelsior, Minn., to 3305 Cottagegrove Ave., So. Des Moines, Ia.

Foersterling, Fred, from 151 N. Michigan, Box 1, to 8309 Drexel Ave., Chicago, Ill.

Gabeler, E. R., from 733 Boylston St., Boston, Mass., to 538 California St., Newtonville, Mass.

Greiling, Herbert H., from 2625 Hampshire Road, Cleveland Heights, O., to 1807 E. 90th St., Cleveland, O.

Kelsey, Nathaniel A., from 255 Blohm St., West Haven, Conn., to 72 Addington Rd., Brookline, Mass.

Lantz, F. O., Co., from 530 E. Fourth St., to 133 W. Broadway, Long Beach, Calif.

Lytle, R. W., from 1871 E. 97th St., to 10008 Lamont Ave., N. E., Cleveland, O.

MacClenthen, T. A., from Kelvinator-Chicago Co., Michigan at Randolph St., to 160 E. Illinois St., Chicago, Ill.

McIntyre, R. R., from 1350 10th St., So. Fargo, No. Dak., to c/o Frigidaire Corp., Portland, Ore.

McKinley, John C., from 1233 S. Hope St., to 1517 N. Mariposa Ave., Los Angeles, Calif.

McParland, T. G., from 201 Victoria Rd., Walkerville, Ont., Can., to West End Y. M. C. A., Room 13, Toronto, Ont., Can.

Memphis Iroquois Co., from 1144 Union, to 1004 Falls Bldg., Memphis, Tenn.

Oliver, L. V., from Avd. Aliados 358, to Lirio No. 1, Grao-Valencia, Spain.

Owen, LeRoy A., from 147 W. 77th St., to 2710 Sedgewich Ave., New York, N. Y.

Reid & Bishop, Inc., from 1403 to 1501 Fort Worth National Bank Bldg., Fort Worth, Tex.

Samuels, H., from 216 E. 119th St., New York, N. Y., to 8621 4th Ave., Brooklyn, N. Y.

Schalk, Yale, from 458 Hamson Ave., to 745 Lynn St., Hamilton, O.

Schwartau, Henry J., from 6145 Winthrop Ave., to 1556 Hollywood Ave., Chicago, Ill.

Tigar, M. George, from 1018 Commonwealth Ave., Boston, Mass., to 270 Broadway at Third Ave., Chelsea, Mass.

Underhill, Lance, from 1458 State St., Schnectady, N. Y., to 23 Aberdeen St., Rochester, N. Y.

Watt, A. C., from 14 Wall St., to 20 Broad St., New York, N. Y.

Whiteman, H. B., from 14 Wall St., to 20 Pine St., New York, N. Y.

NEW DEALERS & DISTRIBUTORS

Recent appointments announced by manufacturers and new sales outlets reported from the field.

Copeland

Distributors—
Silver & Co., Lynchburg, Va.

Dealers—
Automatic Coal Burner Corp., 462 Bergenline Ave., New York, N. Y.
A. C. Baker & Son, Marathon, N. Y.
Hewitt & Bavier, Inc., New Rochelle, N. Y.
Vesta Electric & Radio Corp., Spring Valley, N. Y.
Wesco Utilities Corp., White Plains and Scarsdale, N. Y.
Arthur Willis, Fillmore, N. Y.
H. D. Ryder Co., Boonville, N. Y.
Victor A. Burdick, Trafton, N. Y.
Seiden Auto Supply Co., Poughkeepsie, N. Y.
Sam Burman & Co., 4659 Page St., St. Louis, Mo.
Brewer & McCall, Farmington, Mo.
Bailey Radio & Electric Co., Centralia, Mo.
Eugene Moore, Paris, Mo.
George B. Rothweile, Palmyra, N. Y.
Wheeler Plumbing and Heating Co., Chillicothe, Mo.
McLaughlin Furniture Co., Sedalia, Mo.
Bonne Terre Motor Co., Bonne Terre, Mo.
Fletcher & Barger, Ironton, Mo.
J. W. Brown Co., Marshall, Mo.
Lewis Hardware Co., Tecumseh, Okla.
Wallace Furniture Co., Blackwell, Okla.
Sallaska Tire & Battery Co., Fairview, Okla.
G. A. Ruggles Hardware, Konawa, Okla.
Osage Electric Co., Fairfax, Okla.
Frederick Battery & Electric Co., Frederick, Okla.
Miami Maytag Co., Miami, Okla.
Sideons Plumbing & Electric Co., Wellington, Kans.
Paul & Penley, Augusta and Mulvane, Kans.
Wilson Hardware Co., Eldorado, Kans.
McGregor Hardware Co., Winfield, Kans.
Pfahl Electric Co., 3074 W. 25th St., Cleveland, Ohio.
J. J. Frey, Pettisville, Ohio.
Central Hardware & Stove Co., Akron, Ohio.
Douglas Brothers, Akron, Ohio.
Percy G. Ford Motor Co., Bristol, Pa.
Seymour Appliance Co., Duquesne, Pa.
Saltville Music Co., Saltville, Va.
John R. Corley Co., Mexia, Tex.
Best Furniture Co., Temple, Tex.
Thermal Engineering Co., Englewood, N. J.
Paramount Radio & Music Co., 624 Washington St., Hoboken, N. J.
F. M. Vanderlip, Van Nuys, Calif.
H. J. Simank & Son, 212 W. 2nd St., Los Angeles, Calif.
W. A. Sowers, Johnson City, Ill.
Marwill & Co., 4525 Lincoln Ave., Chicago, Ill.
Walter H. Garrett, Las Vegas, N. Mex.
Hood McPherson Furniture Co., Ensley, Ala.
Ironwood Plumbing & Heating Co., Ironwood, Mich.
Framingham Hudson-Essex Co., Framingham, Mass.
Bartram Electric Co., Torrington, Conn.
Edenton Electric Co., Edenton, N. C.
Smith Hardware Co., Elberton, Ga.
George A. Lees, Robbinsdale, Minn.

Electro-Kold

Distributors—
Goggans & Pennie, 206 Central Ave., Great Falls, Mont.

Sparklets, Inc., New York

Distributors:
Harper-Magee, Inc., Seattle, Wash.
E. O. Cone Co., El Paso, Texas.
Copeland St. Louis Co., 2217-19 Locust Blvd., St. Louis, Mo.
Glueck & Co., 1st National Bank Bldg., Kansas City, Mo.
Electric Refrigerator Co., 2nd and Michigan Sts., Milwaukee, Wis.
Golden Gate Supply Co., 441 Clay St., San Francisco, Calif.
Bohemian Distributing Co., 2116 Sacramento St., Los Angeles, Calif.
Electric Device Co., Pittsfield, Mass.
Hot-N-Kold Corporation, 949 Mission St., San Francisco. Calif.
Washington Gas Light Co., Washington, D. C.

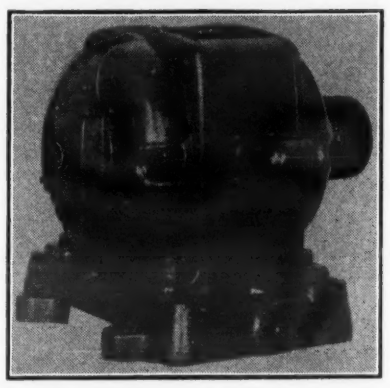
Dealers:
Central Illinois Light Co., Peoria, Ill.
Community Gas Appliance Co., 7 Franklin St., Derry, N. H.
Milnor Refrigeration Co., 129 Government Sq., Cincinnati, Ohio.
A. L. Fink Electric Co., Woodburn Ave. at Madison Road, Cincinnati, Ohio.
S. M. Varnadoe, Valdosta, Ga.
Thomas P. Hallock, 492 Peachtree St. Atlanta, Ga.
D. K. Baxter, Inc., 606 Pierce St., Sioux City, Iowa.
Central Arizona Light & Power Co., Phoenix, Ariz.
Burlington Kelvinator Co., Burlington, Wis.
Kauer Plumbing & Heating Co., 12385 Indiana Ave., Detroit, Mich.
Central Hudson Gas & Electric Corp., 50 Market St., Poughkeepsie, N. Y.
Detroit Edison Co., Mt. Clemens, Mich.
L. Bernstein Furniture Co., Cumberland, Md.
Keokuk Refrigerating Co., Keokuk, Iowa.
F. Paul Broxy, Stonington, Conn.
Electro-Kold Corp., 151 So. Post St., Spokane, Wash.
Sumter Gas and Power Co., Sumter, S. C.
Modern Home Utilities, Inc., Waterbury, Conn.
E. T. Watson, Macon, Ga.
Brown Electric Co., Columbus, Ga.
Coleman's Electric Shop, Westerly, R. I.
Citizens Light and Power Co., Adrian, Mich.
Ponders Brothers, 784 Commerce St., Tacoma, Wash.
Columbus Electric and Power Co., Columbus, Ga.
Hill & Co., Narcoosee, Fla.
F. P. Lutz Co., Dayton, Ohio.
Modern Refrigerating and Oil Heating Co., Inc., Rochester, N. Y.
Wellsborough Electric Co., Wellsborough, Pa.
Climax Engineering Co., Clinton, Iowa.
Hodges Brothers, 115 N. Jackson St., Albany, Ga.

G. E. ANNOUNCES NEW ¾ TO 2 H. P. MOTOR

General Electric 1 H. P. Alternating Current Motor

The General Electric Co. announces an improved single-phase, repulsion induction motor. This motor, in sizes including ¾, 1, 1½ and 2 horsepower at 1800 r. p. m., supplements the present General Electric line of SCR motors. It is of the constant-speed, high starting torque type for general application.

The motor is enclosed except for ventilating openings in the lower portion of each end shield. Air is drawn through the ventilating openings at the pulley end by means of an internal fan, passes around the stator laminations and out through the ventilating openings in the commutator



General Electric Single Phase, Repulsion-Induction Motor

end. This construction makes a practically enclosed motor and provides complete protection against falling particles and splashing water. The ventilating openings in the end shields have been so designed that they will meet the requirements of the various safety bodies for protection against accidental contact.

Wallace Taylor Joins Servel

Wallace Taylor, formerly with Kelvinator in Philadelphia, has joined Servel Sales, Inc., on special sales development work.

STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of ELECTRIC REFRIGERATION NEWS, published every two weeks at Detroit, Michigan, for October 1, 1928.

STATE OF MICHIGAN,
COUNTY OF WAYNE,
ss.

'Before me, a Notary Public, in and for the State and county aforesaid, personally appeared G. N. Congdon, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the ELECTRIC REFRIGERATION NEWS and that the following is, to the best of his knowledge and belief, a true statement of the, ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Business News Publishing Company, 550 Maccabees Bldg., Detroit, Mich.
Editor, F. M. Cockrell, 18090 Wildemere, Detroit, Michigan.
Managing Editor, H. J. Moore, 12561 3rd, Detroit Michigan.
Business Manager, G. N. Congdon, 11 Farrand Park, Highland Park, Michigan.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

Business News Publishing Company, 550 Maccabees Bldg., Detroit, Mich.
F. M. Cockrell, 18090 Wildemere, Detroit, Michigan.
J. M. Evans, 818 West Hancock, Detroit, Michigan.
H. A. DeLashmutt, Belcrest Apts., Detroit, Mich.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are : (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publication only.)

G. N. CONGDON,

(Signature of editor, publisher, business manager, or owner.)

Sworn to and subscribed before me this 8th day of Oct., 1928.

ANNA SACHS.

SEAL.

(My commission expires Aug. 27, 1930.)

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance—Positions Wanted—fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

POSITIONS WANTED

Sales Executive. Sales manager of wide experience, sales and market analysis, advertising, price structures, full knowledge of specialty selling, wholesale and retail and resale. At present employed, available on reasonable notice. Address confidentially Box No. 111.

Manufacturers Representative. Covering New York, New Jersey, Pennsylvania, personally acquainted with jobbers and utility company officials, guarantee widespread distribution in Eastern territory. Interview arranged at your factory or in New York. Box No. 112.

POSITIONS AVAILABLE

Wanted—Experienced Refrigeration Sales Engineer competent to supervise men and sell direct to large national buyers of commercial refrigeration equipment only. Ammonia background preferred with full knowledge of air circulation and service operations. Address Department XYZ. Box No. 115.

REPRESENTATIVE WANTED

Two high class salesmen—one for middle west (Chicago) and one for east. Contact, Public Utility Companies and Jobbers. Submit full details. Box No. 116.

Excellent opportunity for man having Engineering and Service experience, capable of laying out Commercial and Apartment House Multiple jobs, to handle Service and Installation men to the extent of qualifying as Assistant Service Manager in city, such as New York, Chicago or Boston. This man should be capable of assuming entire charge in absence of Service Manager. Reply Box No. 117.

Opportunity for Service Man capable of installing and servicing Commercial and Multiple Apartment house jobs as well as Domestic equipment—Sulphur Dioxide. Big city work. Only thoroughly experienced man will be considered and must give complete details as to experience, present salary and whether in position to move. Reply Box No. 118.

MISCELLANEOUS

I have good prospects in New York State for representing, distributing and installing commercial units, 1 to 4 ton capacity, direct driven methyl chloride or SO_2 refrigerant machines. What other proposition have you? A. Braun, 103 West 104th St., New York City.

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Subscription Order

ELECTRIC REFRIGERATION NEWS,
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Please enter my subscription to Electric Refrigeration News.

United States and Possessions:

☐ $2.00 per year. ☐ Three years for $5.00.

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ELECTRIC REFRIGERATION NEWS

The business newspaper of the refrigeration industry

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INDUSTRY IS WELL REPRESENTED AT ELECTRICAL SHOW

200,000 Attend Exhibits In Grand Central Palace, New York

MORE than 200,000 visitors are estimated to have attended the twenty-first annual Electrical and Industrial Exposition, held Oct. 20 to 27, in the Grand Central Palace, New York City. For the first three days the exposition was open only to members of the industry.

The exhibits covered three floors of the Grand Central Palace and included approximately every variety of electrical appliance. Among the exhibits were electro-therapeutic service, an electric washer that could almost be packed into a hat box, a device for mending silk stockings, a motion picture camera which will take color movies at home, and electrical vehicles from the small red roadster to ten-ton trucks. Television and broadcasting were demonstrated.

Copeland Refrigeration Co., of New York, exhibited a large line of electric refrigerators. The De Luxe models, in six colors, were featured. Several new types of compressor units, the new Copeland Zero Tube and a line of water coolers were shown.

The exhibit of Rex Cole, Inc., distributor of General Electric refrigerators, included a refrigerator at the top of a 43-foot tower which rose from the center of the first floor to the top of the mezzanine floor.

Domestic Electric Co., Inc., distributors of Frigidaire refrigerators, exhibited a complete line of the new Frigidaires. Models for installation in the ice box were also shown. A part of the exhibit was educational, bringing out the importance of preserving food properly in the home and tracing the science of food preservation from the cave man to the present day.

Kelvinator Sales Corp. displayed a full line of cabinet Kelvinators and models of units to fit any size or make of refrigerator. The exhibit included commercial equipment for use in restaurants, butcher shops and floral shops.

Seeger Refrigerator Co. exhibited a line of refrigerators for electric or gas installation including both household and commercial models. The household cabinets were of white porcelain, both interior and exterior, and the commercial cabinet, porcelain enamel on the interior with flush oak exterior.

Servel Sales, Inc., displayed a line of Servel and Electrolux refrigerators in a variety of colors. Refrigerating machines, designed to meet the requirements of butchers, grocers and other merchants were shown. Included in the exhibit were Servel electric drinking water coolers.

Welsbach Co. displayed the Welsbach low pressure system installed in cabinets of its own manufacture. The display showed the use of Alcozol as a refrigerant.

Rice Products, Inc., New York, featured a small kitchenette model and four larger domestic models. In addition a Rice compressor was also exhibited.

The Charles E. Hires Co. displayed several models of Hires' Frigidaire water coolers.

MEETING OF COUNCIL IS POSTPONED UNTIL NOV. 13

The meeting of the Refrigeration Manufacturers Council originally announced for Nov. 1 has been postponed until Tues., Nov. 13 at 10:30 A. M., at the Hotel Statler, Detroit.

The postponement was made in order that the officials of the Council who are most familiar with what has gone on so far, could all be present.

DIRECTORY SERVICE

Manufacturers of Machines Listed in This Issue

A SPECIAL directory listing all active manufacturers of electric refrigeration machines, with a revised compilation of machine specifications, will be found in this issue.

Manufacturers of refrigerator cabinets will be listed in a similar manner in the next issue, November 21. Sources of supply for parts, materials and accessories which enter into the manufacture and installation of complete refrigeration systems will be listed in the December 5 issue.

Data is being collected for a special directory of the manufacturers of production tools and equipment, also tools and equipment for handling, storage, installation, testing and servicing of machines and cabinets to appear in the issue of December 19.

Questionnaires are being mailed out to all known manufacturers of these products for the purpose of securing complete and accurate data. Any manufacturer not receiving a request for information is urged to notify the Editorial Department regarding such oversight. Manufacturers are also invited to call attention to any error or omission in directories published in previous issues. This is particularly important since a *complete directory* of all classifications of products is to be published in the first issue of next year, Jan. 2, 1929.

200 ATTEND FRIGIDAIRE MEETING OF S. A. LONG ELECTRIC CO., WICHITA

About 200 Frigidaire dealers and salesmen attended the annual conference and banquet held on Oct. 12 by the S. A. Long Electric Co., distributors for Frigidaire in Wichita, Kan. Representatives from Frigidaire Corp., Dayton, who participated in the conference were J. A. Harlan, sales manager; G. S. Jones, regional supervisor; J. F. Lumpkin, district supervisor; S. J. Best, of the engineering department; A. Harrison, of the educational department, and R. B. Ambrose, of the commercial department.

Others who took an active part in the meeting were, A. E. Scheidt, manager of the General Motors Acceptance Corp. branch at Dallas; George Rauch, sales manager of the Empire District Electric Co., Joplin, Mo.; F. H. McCullough, sales manager of the Kansas Gas & Electric Co., Wichita; J. J. Eddington, sales manager of the Kansas Utilities Co., Fort Scott; Frank Bessette, sales manager of the Kansas Power Co., Concordia, and P. J. Galloway, Frigidaire distributor, Little Rock, Ark.

F. H. McCullough and S. A. Long were the speakers at the banquet held at the Hotel Lassen in Wichita.

REFRIGERATION IS AS NECESSARY IN WINTER AS SUMMER

Says Mrs. Meek, Manager of Detroit-Edison Electrical Exhibit

"We do not think of refrigeration in terms of summer or winter time, do not talk to our visitors in those terms, and it is very seldom that our attitude is contradicted," says Mrs. J. Porter Meek, manager of the Electrical Exhibit, which is sponsored by the Detroit-Edison Co.

As advantages of the refrigerator in winter, Mrs. Meek points out that there are estimated to be six days in the year when natural refrigeration is perfectly safe; milk that has been frozen is not suitable for children to drink nor for use in all cooking; electric refrigeration is economy in its minimum of food spoilage; it avoids the ice man having to open the door in cold weather, and makes possible the absolute cleanliness of foods which is not possible in the window box. Fluctuation in temperature is the greatest cause of food spoilage. Milk not kept at a definite temperature is suitable for all uses for approximately two days, while, when kept in the refrigerator, it can be used at the end of a week's time.

The number of women who express an interest in electric refrigeration varies only slightly between summer and winter. Mrs. Meek has concluded that selling the woman on the all-year-round idea is not a big factor.

The saving of trips to the grocery store has been found by Mrs. Meek to be one of the big factors in satisfaction of the customer with the refrigerator. Practically any perishable food will remain in perfect condition for a week in the refrigerator and more than the one trip a week can be avoided by planning. Many women have expressed the opinion that they would rather be without their refrigerator any time more than in the cold, snowy weather.

Mrs. Meek is planning a Christmas tree for the exhibit room and will have a refrigerator wrapped or marked as a Christmas gift. For a while before Christmas the refrigerator demonstrations will be principally devoted to the making of Christmas foods.

The refrigeration demonstrations were originally planned for Tuesday afternoons, but many people who were unable to attend on that afternoon asked that it be changed, so both the range and refrigeration demonstrations are given on both Tuesday and Thursday afternoons.

The record day for refrigerators at the exhibit, Mrs. Meek says, was when sixty-six out of seventy-three visitors came to see electric refrigerators.

M. B. ELLS HEADS UNIVERSAL COOLER SERVICE DEPARTMENT

M. B. Ells, formerly with the Frigidaire Corp., and more recently with Copeland Products, Inc., has joined the Universal Cooler Corp., Detroit, Mich., and will be in charge of the service department.

Welsbach Executive Makes Plea for Active Trade Association at A. S. R. E. Meeting in Philadelphia

Says Co-ordinated Effort Is Only Means By Which Industry Can Hope to Win Its Place in the Race for Public's Dollar

Address by R. R. Thompson, sales manager of the Refrigeration Division, Welsbach Co., Gloucester, N. J., given at a meeting of the Philadelphia Section., American Society of Refrigerating Engineers, Engineer's Club of Philadelphia, on Oct. 30.

THIS new industry of ours, which has claimed so much technical and public attention in the past few years, is merely an arm of a science of long and secure standing.

Just why the greater developments and progress in refrigeration was so long concentrated on the large storage and ice-making plant, I cannot readily explain. Because all refrigeration is an evidence of the higher standard of living of the people who utilize it, it has always appeared to me just as logical that the early developments in mechanical refrigeration, and here I am referring to fifty and seventy-five years ago, should have also produced something worth marketing in the domestic and intermediate field. However, the efforts of the pioneers were concentrated on equipments that rated their ice melting effect in tons and hundreds of tons, rather than pounds, per twenty-four hours and, although the need has existed, latent and waiting for a long time, it was not until ten or fifteen years ago that any productive effort was made to bring into being and market refrigeration in the field we are talking about and in which, today, many millions of dollars of working capital are invested. They are requisite to the furthering of our industry, but of greater importance still is the element of human endeavor which has brought small unit refrigeration so far in so short a period of time. The point I wish to emphatically illustrate is that although manufacturers of ammonia equipment have had it within their power to produce small unit apparatus for years, still it was not until specialty-mindedness came into the picture that the market was tapped. The principal reason for this, as I see it, is that manufacturers of large equipments did not find it difficult to take care of the output of their plants and earned a return on their investment by ordinary sales methods. In other words, an individual would embark in the cold storage or ice making business. He would have a demand for refrigerating machinery of a certain capacity. He would submit requests to the various manufacturers and they would bid. The business was well distributed and all prospered. It was not necessary to seek a field capable of absorbing small capacity machines.

Small unit refrigeration is not founded on any acknowledged existing demand but, rather, it is based on the potential market, approached in a selling way that will create a demand for the product, the presence of which the purchaser is hardly aware until solicited. Men who are accustomed to promoting and seeking business from this field are those that I classify as specialty-minded. It is merely one way of progressing and earning a living. It is not an easy way—it calls for unremitting forethought and effort. It calls for the willingness to invest capital, brains and work in a market which cannot be charted, which has no background from which safety factors can be extracted and utilized.

Our discussion this evening is to be centered on the intermediate field. Intermediate is a happy term. Confusion often exists in calling the application to the grocer, delicatessen and florist a "commercial application" because, at times, the ice making

(*Continued on Page* 15, *Column* 1)

UNIVERSITY OF OREGON OFFERS A COURSE IN REFRIGERATION SALES

The University of Oregon extension department at Portland is offering a course in electric refrigeration sales. The lectures in this course were started on Oct. 22 and classes are being held one evening a week at the Lincoln High School in Portland.

Members of the faculty of the university are co-operating with the Arch Electric Co., Portland, distributors for General Electric refrigerators, in offering this course. Opportunity for entering refrigeration sales work will be given upon completion of the instruction.

750,000 UNITS SHIPPED FRIGIDAIRE ANNOUNCES

On Nov. 1 Frigidaire Corp., Dayton, Ohio, announced that 750,000 units had been shipped from its factories. In reviewing past production records, E. G. Biechler, president and general manager said:

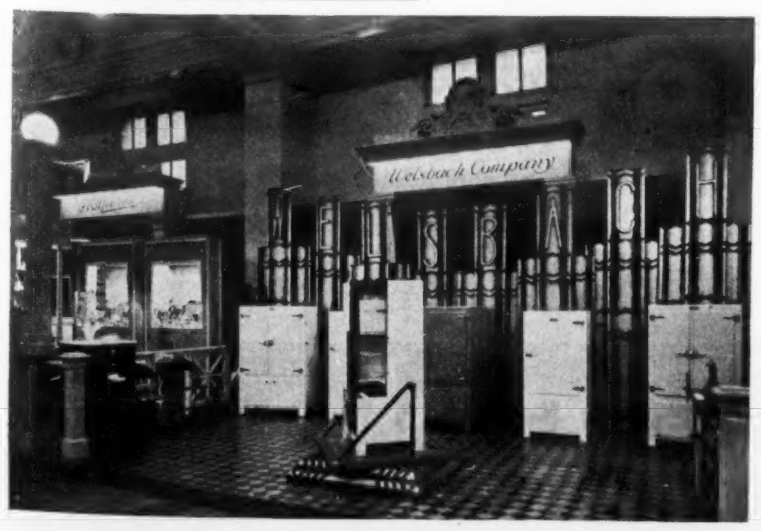
"It required nearly 10 years for us to build and sell the first quarter of a million electric refrigeration units. The second quarter of a million was built and shipped in 14 months and in eight months we built and shipped the third quarter of a million."

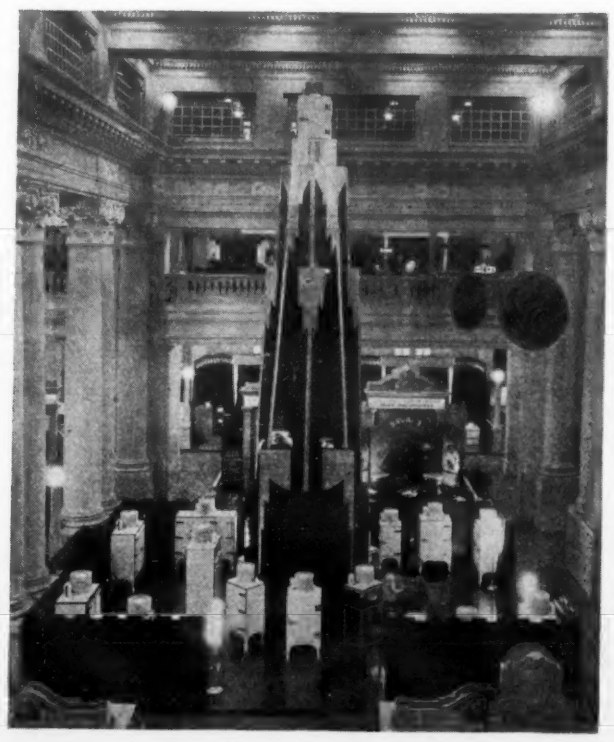
In addition Mr. Biechler stated that the plants of the Frigidaire Corp. which are partially closed for a brief inventory will resume operations on Nov. 12. He added that last week the Frigidaire Corp. received the largest single order for household refrigerating equipment in its history. It consisted of 628 individual installations to be placed n ktichens of the Marshall Field apartment homes in Chicago.

New York Edison Cooperates in Selling Electric Refrigeration to the Six Million

Below: Low pressure system displayed by Welsbach Co., Gloucester, N. J.

Right: A 43-foot tower aided in the display of Rex Cole, Inc., General Electric refrigerator distributor

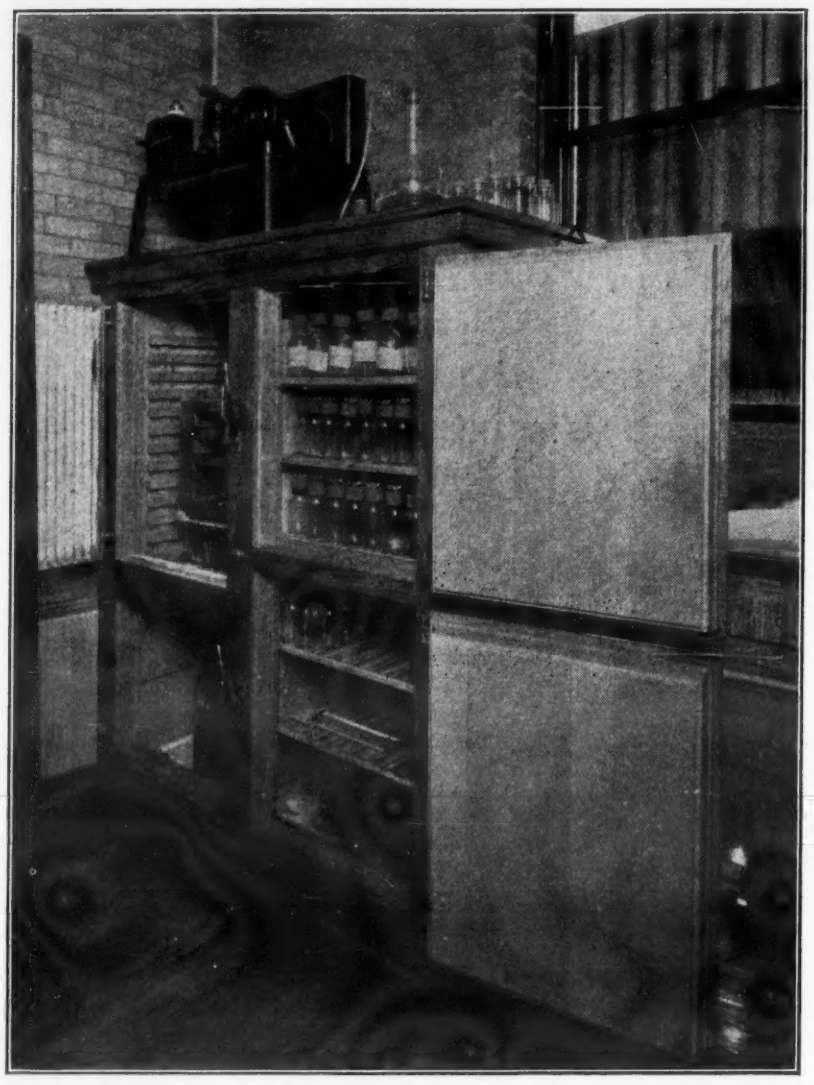




Below: De Luxe models in six colors displayed by Copeland Refrigeration Co., New York, Copeland distributors

Reproductions of other exhibits at the New York show will be found on page 17

Zerozone and McCray Enlisted for Peculiar Job



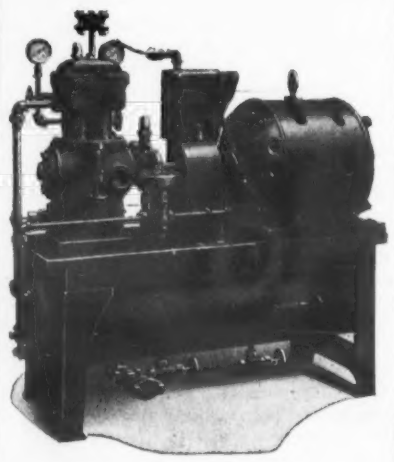
By its recent installation in the Calumet Sewage Treatment Works at 144th and Cottage Grove, South of Chicago, a Zerozone units has fallen to an unusual task.

J. I. Smith, chemist in charge, explains that it is necessary to maintain samples of sewage at a constant 60 degrees F. temperature before making the test for sewage strength. As shown in the illustration above, these samples are kept in small bottles, each equipped with an air seal and labeled as to exact contents. They are kept in the refrigerator for five, ten and twenty days and are then tested for oxygen-demand, which indicates their strength.

The Zerozone model S compressor was selected for the purpose in connection with the model 20-V cooling unit. The small electric fan which is seen at the bottom of the box works continuously, supplying rapid circulation of air. Another unusual feature (which cannot be seen in the picture) is a 60-watt bulb located under the cooling unit, which is automatically turned on when the temperature drops below 68 degrees F., by an an auxiliary thermostat located in the cooling chamber. This offsets any sudden drop in the room temperature.

According to Mr. Smith, the Zerozone unit holds the temperature of the box within two degrees of the designated 68 degrees standard. A McCray refrigerator is used.

EVERLASTING
TRADE FRICK MARK
REFRIGERATION



Frick Direct-drive Unit

A size for every commercial need, from ¼ ton up. 40 years' Refrigerating experience built into every Frick machine. World-wide reputation and advertising; installations everywhere.

Distributors wanted.

Frick Company
WAYNESBORO, PA., U.S.A.
ICE MACHINERY SUPERIOR SINCE 1882

Preparatory Service School Opened by Syracuse Copeland Agent

Supplementing the regular service schools conducted in Detroit by the Copeland Products, Inc., the B. I. Cooper Sales Co., Inc., Syracuse, distributors for Copeland in central New York state, has started a service school for dealers in its territory.

W. J. Miller, service manager for the B. I. Cooper Co., who is directing the school states that it is preparatory for the advanced training available at the Detroit service schools.

Hartford Division, Electrolux, Inc., Entertains Managers and Salesmen

The Hartford division of Electrolux, Inc., Hartford, Conn., recently entertained members of the company and guests at the executive offices of the company in the American Industrial Building, 983 Main Street. Managers and salesmen, as well as other members of the Springfield, Mass., and New Britain, Conn., branches were the guests of the occasion.

Frigidaire Drive Nets 193 Units Valued at $54,438

A Frigidaire campaign which was conducted by the Pennsylvania subsidiaries of the Associated Gas & Electric Co., New York, N. Y., from July 9 to Sept. 1 resulted in the sale of 193 units amounting to $54,438. A quota of $70,000 was set as the goal in the drive and the subsidiaries succeeded in selling 78 per cent of their quota.

Fish Shipped to Montana in Silica Gel Cars

At Billings, Butte and Great Falls, Mont., three carloads of fillet of haddock were received recently from fisheries on the Atlantic coast in cars cooled by the Silica Gel adsorption refrigerating system. The shipment was the first to reach Montana in cars refrigerated by the Silica Gel system.

DRIVE ON FOR REFRIGERATOR TERMINAL FOR SAN FRANCISCO

Efforts to promote a statewide campaign for the erection of a large refrigerator terminal in San Francisco for the storage of fruit awaiting shipment to foreign countries are being made by business leaders of San Francisco. Captain Robert Dollar of the Dollar line and Harry Scott, president of the General Steamship Co., as well as business leaders are back of the drive.

Portland and Seattle have such terminals, while San Francisco is without one. Shipping men, as well as the fruit and produce growers of California, declare that the weakest link in the chain for fresh produce exports out of San Francisco is the lack of a refrigerator warehouse in the bay region.

Executives of E. H. Walker Co., Toledo, Attend Sales Banquet

Officials of the E. H. Walker Co., Toledo, Ohio, distributors for Frigidaire and Delco-Light, attended a banquet at the Secor Hotel on Sept. 14 to discuss future sales plans.

Among those present at the dinner were E. H. Walker, president and general manager; A. C. Hunt, assistant general manager; A. W. Taylor, sales promotion manager; O. W. Gleason, Frigidaire sales manager; A. V. Stout, Delco-Light sales manager; R. P. Nelson, office manager; R. A. Caylor, service manager; E. Lennex, warehouse manager; D. Knepper, order dept.; J. K. Hathway, stock dept.; and O. W. Nail, Delco-Light pump sales manager.

Frick Appoints C. S. Campbell Special Sales Representative

Frick Company, Waynesboro, Pa., announces the appointment of C. S. Campbell as special sales representative. Mr. Campbell expects to devote himself chiefly to the company's distributors.

For many years he was branch manager of the Fred W. Wolf Co., of Chicago, at Atlanta, Ga., later special sales representative for the Triumph Ice Machine Co., covering central and eastern states, then he became an agency supervisor for the Brunswick-Kroeschell Co., and during the past few years has been identified with the field of illuminating engineering.

Boston Distributor Reports Interesting Installations

Baudette & Graham, Boston distributors of Copeland products have contracts for installing four large Stanley-Knight refrigerator fountains equipped with Copeland Model W condensing units in the New Boston Madison Square Garden, Boston's new sports arena. The company also has a contract for installation of a water cooling system in the new Post Office at Boston. This will include two Model W units. A Model R Copeland condensing unit with expansion coils is to be installed in the record vault of the Christian Science Church at Boston.

Universal Cooler Corp. Increases Ice Cream Cabinet Sales Force

The Universal Cooler Corp., Detroit, Mich., has recently added to its ice cream cabinet sales force Charles P. McGuinness, Charlestown, Mass.; K. P. Lewis, New York, N. Y.; Carl P. Streed, Chicago, Ill.; James Beattie, Detroit, Mich.; Walter S. von Meyer, Jefferson, Wisc., and W. E. Nealy, Memphis, Tenn. This addition to the sales organization gives the Universal Cooler Corp. complete sales coverage east of the Rocky Mountains.

Lewis Lipman Joins Haskelite

Lewis Lipman, formerly of the Iceless Cooler Corp., Chicago, and General Necessities Corp., Detroit, has been engaged by the Haskelite Manufacturing Corp. to represent them in the sale of Plymetl for refrigerator use. Plymetl panels are now being furnished for fountainettes and complete exterior shells of ice cream cabinets as well as for the front and doors.

Electro-Kold Establishes Branches in Seattle and Tacoma

Electro-Kold Refrigerator Co., Spokane, Wash., has opened factory branches in Seattle and Tacoma, Wash. Both sales and servicing of their product will be handled.

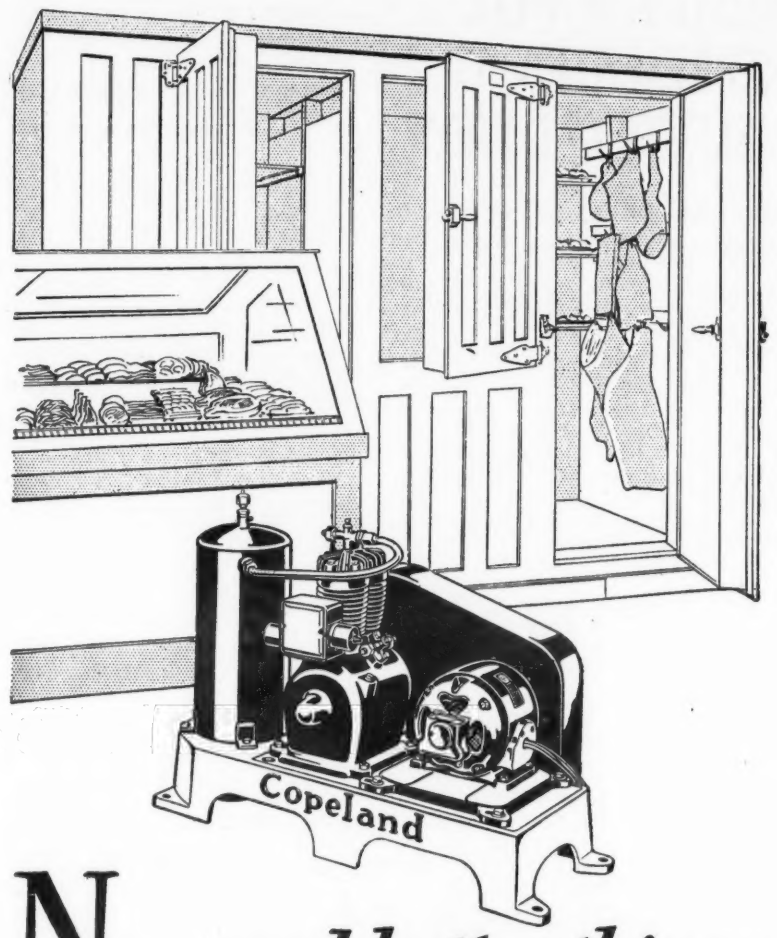
Charles Earl in Charge of Norge Sales in El Paso

Charles Earl, factory representative of the Norge Corp., Detroit, Mich., has been transferred to El Paso, Tex., where he will take charge of the electric refrigeration department for A. J. Strayer, Norge distributor.

Suggests Automobile Type of Refrigerator Display Rooms

The automobile display room is being suggested by the electric refrigeration department of General Electric Co. as a pattern for electric refrigerator display rooms.

The suggested store front has no platform to separate the window from the remainder of the display room. The whole sales room is made into a window display providing clear visibility into the attractive interior.



New and better things in Commercial Refrigeration

Wherever there is talk of commercial refrigeration there is talk of Copeland—there is the disposition to find out, first, about the new and better things that Copeland has recently developed. For Copeland has introduced amazing improvements in the methods of refrigerating display counters and tables, storage rooms, walk-in boxes, soda fountains, milk cabinets, etc.

More powerful condensing units

A thorough investigation of the needs of retail stores, clubs, restaurants, drug stores and ice cream parlors has resulted in several new condensing units of remarkable efficiency. Copeland now supplies more power, with less current consumption and fewer maintenance costs; longer life for the "heart" of the refrigerating system.

More compact installations

The design and development of a new "zero tube" having the combined advantages of the brine and fin system, at the same time reducing the amount of space required for installation, is a decided advance over any former practice. Increased refrigeration capacity, when desired, is accomplished by the easy *addition* of more "zero tubes" which are easily adapted to available space.

Greater dependability

Whereas Copeland refrigerating systems have always been noted for their sureness of operation, the new developments have actually increased the factor of *dependability*. And this has been accomplished without sacrificing the *simplicity* and *accessibility* for which Copeland installations have always been famous.

Apartment installations—water coolers

Here, too, Copeland offers an invaluable service. Copeland multiple installations for apartments, flats and duplexes, and Copeland water coolers for store, office or factory furnish the most satisfying solution to a vexing problem.

A franchise that covers all

Distributors and dealers who would tie up with a financially strong organization having an amazingly successful record in the field of domestic and commercial refrigeration, are invited to write for particulars. A few territories are available to men of Copeland qualifications.

COPELAND, 630 LYCASTE AVE., DETROIT, MICHIGAN

Copeland
DEPENDABLE ELECTRIC REFRIGERATION

NEW SECTION OF A.S.R.E. ORGANIZED IN PHILADELPHIA

135 Attend Meeting—H. I. Lewis Elected Chairman.

A meeting of refrigeration men, Tuesday evening, Oct. 30, at the Engineers' Club of Philadelphia, marked the formation of a new section of the American Society of Refrigerating Engineers. One hundred and thirty-five men were present at the dinner and technical session. At the dinner it was voted to organize and H. I. Lewis, sales manager, Refrigeration Division, American Engineering Co., was made chairman of the organization committee and of the petitioning section.

H. D. Edwards, vice-president of the A. S. R. E., presided at both the dinner and meeting. Short talks were heard from a number of out-of-town members, including: C. C. Spreen, Detroit; S. C. Bloom, Chicago; A. H. Eustis, Boston; G. A. Horne, J. B. Churchill and D. L. Fiske from New York. Large representations were present from several companies, notably Welsbach, Brunswick-Kroeschel, Kelvinator and Frick.

The meeting adjourned to the auditorium after dinner where the four illustrated talks were given. All of these provoked interesting discussion.

R. R. Thompson, sales manager of the Welsbach Refrigeration Division, gave a spirited talk on the intermediate field for electric refrigeration, together with information regarding special applications of this type of machine and points in its sale.

W. H. Aubrey, Frick Co., described the features of small ammonia machine installations in typical cases. His talk was illustrated with several slides.

Speaking from the viewpoint of the electric utility company, A. L. MacMillan, Philadelphia Electric Co., discussed rates as related to the development of electric refrigeration.

The fourth speaker was Freemont Wilson, consulting engineer from New York City, who has attracted much attention by his part in the safety code project. He stated his own opinions briefly and added evidence of past and present practice in the installation of multiple systems. In rebuttal, engineers associated with one or two companies advocating this type of refrigerating installation presented their views and the subject was discussed from a technical angle at some length.

N. E. M. A. DISCUSSES PROBLEMS OF ELECTRICAL INDUSTRY AT BRIARCLIFF, N. Y. MEETING

More than 300 electrical manufacturers attended the National Electrical Manufacturers' Association convention held at Briarcliff, N. Y., Oct. 28-Nov. 1. Several divisions met in separate closed meetings to discuss their manufacturing problems and a general session was held on Oct. 30.

President H. B. Crouse pointed out that the increase of companies represented, from 283 to 350 within a year, coupled with prospective business and activities, has resulted in development of the industry. Thomas Allen, chairman of the N. E. M. A. tariff committee, urged the manufacturers to study production costs here and abroad with a view to supporting any requirements that may be made for greater production founded on American production-cost valuation.

H. T. Bussman outlined terms of payment in the electrical industry as revealed by an 86 per cent return of a questionnaire to the industry.

C P Refrigeration

Self-Contained Units from 500 pounds to 4 tons ice melting capacity. Ammonia or methyl chloride refrigerant.
Over 30 years in the refrigerating machine business.
We invite the live wire dealer who seeks to build a permanent business to get in touch with us.

THE CREAMERY PACKAGE MFG. COMPANY
1243 West Washington Blvd. Chicago, Ill.

G. C. Cusack

G. C. CUSACK TO DIRECT SALES OF DRY ICE CORP.

Announcement is made of the appointment of George C. Cusack as general sales manager of the Dry Ice Corporation of America, 50 E. 42nd St., New York City.

Mr. Cusack has been conected with Dry Ice Corporation since January, 1924. During this time he has been engaged in the development of commercial applications of Dry Ice and also in the sales department. He has had a broad experience in the problems that have arisen in the application of Dry Ice to commercial uses and in consequence has become familiar with the refrigeration problems peculiar to the ice cream, meat and other industries.

ENLARGED OFFICE SPACE PROVIDED FOR ELECTRIC REFRIGERATION NEWS

THE steady growth of ELECTRIC REFRIGERATION NEWS is reflected in another extension of the office space occupied by the Business News Publishing Co. in the Maccabees building, Detroit, Mich. The space taken some eighteen months ago when the paper was moved from 409 E. Jefferson Ave. to the Maccabees building was outgrown in a few months and additional space was secured. Recently the former offices were abandoned in favor of adjoining space which includes all rooms in one entire fifth-floor wing of the building.

The new quarters provide ample area for the present staff and equipment and will also permit further expansion. Plans are being made to increase the size of the NEWS and the scope of its service during the coming year in line with the growth of the electric refrigeration industry.

Advertisers, subscribers and others interested in refrigeration are cordially invited to visit the headquarters of ELECTRIC REFRIGERATION NEWS.

WEST PENN ELECTRIC EXCEEDS QUOTA IN FRIGIDAIRE DRIVE

The West Penn Electric Co., Pittsburgh, Pa., reports that 917 Frigidaires were sold in the campaign which was inaugurated on July 15 and closed on Oct. 1. A quota of 600 units had been set as the goal in the drive and the company was successful in selling 152.8% of that quota.

W. T. McCormick, high district superintendent, Waynesburg; E. B. Lauderbaugh, high supervisor, Waynesburg; J. T. Littler, high salesman with a total of 46 units, Uniontown, and P. J. McCauley, second highest salesman with 44 sales, Cannonsburg, were winners of trips to Bermuda. W. A. Carney, McDonald; R. F. Vincent, West Newton, and W. W. Jennings, Brownsville, were awarded Frigidaire L-5 units. In addition $640 in cash prizes were awarded to other winners in the campaign.

NORGE CORP. TO HOLD ANNUAL SALES MEETING ON NOV. 8-9

On Nov. 8 and 9, the Norge Corp., Detroit, Mich., will hold its annual sales convention, at which meeting distributors and factory representatives will be present.

"The Norge line has been rounded out," said L. W. Ward, general sales manager of the Norge Corp., "and now includes units applicable to all types of refrigeration requirements.

"During the past year many new distributors have been added.

"The Norge Corp. has just closed its fiscal year, the most successful in its history."

SOME WINTER SALES POINTS CITED BY G. E. DISTRIBUTOR

F. B. Connelly Co. Suggests Cold Weather Ammunition

Remember when calling on prospects in the winter time you must be well fortified with cold weather ammunition. The customer shows a lack of interest in winter refrigeration only because she has not experienced its advantages in that season. Listed below are a few winter selling points which should be helpful:

1—Kitchen temperatures are as high in Winter as in Summer so good refrigeration is just as necessary.

2—Good refrigeration does away with all food spoilage. This means money saved every month—in January as well as in July.

3—In Winter outdoor temperatures are too cold to preserve food properly. Frozen food is usually spoiled food.

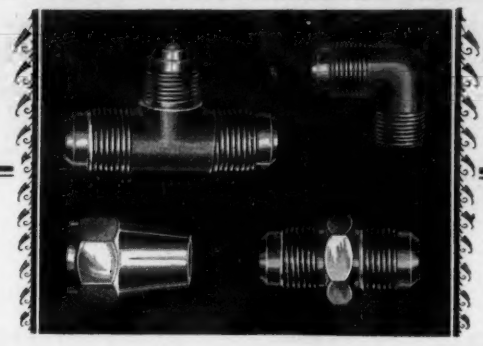
4—Going to market every day is a disagreeable job in the Winter. With an electric refrigerator two trips a week will be enough.

5—Many women catch cold going from a heated kitchen to a cold back porch. It pays to keep well—the electric refrigerator can be placed right in the kitchen.

6—No sales need be lost because the prospect is "going to move in the spring." The General Electric refrigerator is portable.

7—The electric refrigerator is an ideal Christmas present—a year round gift for the whole family.

8—The electric refrigerator is an investment. Through savings effected it pays dividends every month.



PIPE and TUBE FITTINGS

Made From Brass Forgings

For many years we have specialized in the manufacture of brass fittings, in small sizes, for connecting brass and copper tubing.

We are now producing similar parts made from BRASS FORGINGS—including a full line of forged nuts. These fittings are especially designed to meet the requirements of Iceless Refrigerator Manufacturers for fittings of a superior type. These fittings will not leak gas, air or liquids under mechanical pressure. They have the compact grain structure, high tensile strength and smooth, flawless surfaces found only in forgings. Our forged fittings are accurately machined, carefully inspected and individually wrapped and labeled.

Send a sample or blue-print for quotations on parts of a special nature. Catalogue No. R-30, showing our complete line of standard fittings, will be mailed on request.

COMMONWEALTH BRASS CORPORATION
DETROIT 5781-5835 COMMONWEALTH AVE. MICH.

Get ready now for HOLIDAY SALES!

ONE of the best sellers during the coming holidays is bound to be General Electric Refrigerators.

There couldn't be a more appropriate or a more prized gift.

Get ready now. Plan what you are going to do! Where and how will you display General Electric Refrigerators? Will you advertise them in your local newspapers? How large; how often; have you the necessary plates or mats?

Will you advertise them on local bill-boards? Have you arranged locally for bill-board space? Have you spoken for Christmas posters?

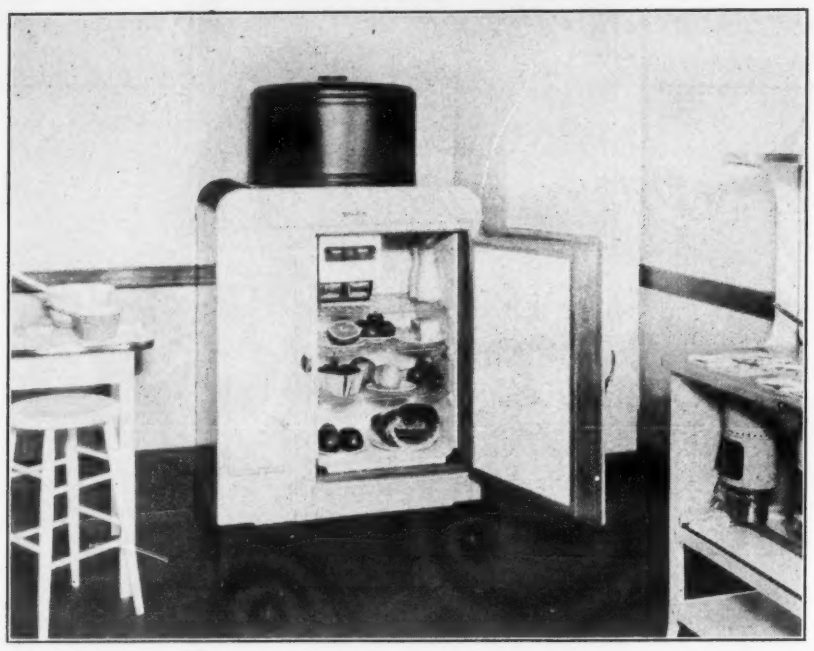
Will you send out letters and mailings to picked prospects? Have you ordered the necessary printed material?

Don't wait until the last minute. Plan for Christmas season business now. Careful planning will bring you the maximum sales.

GENERAL ELECTRIC Refrigerator

ELECTRIC REFRIGERATION DEPARTMENT · OF GENERAL ELECTRIC COMPANY · HANNA BUILDING · CLEVELAND, OHIO

An Oil Unit For Isolated Districts



The "Superfax" refrigerator offered by Perfection Stove Co., Cleveland, O., is self-contained and uses kerosene instead of gas or electricity.

SUPERFAX REFRIGERATOR KEROSENE OPERATED IS SEMI-AUTOMATIC UNIT

Not Intended to Compete With Electric Refrigerators

Taking its place as a sort of "country cousin" to the electric and gas operated automatic refrigerators is the Superfax refrigerator manufactured by the Perfection Stove Co., Cleveland, Ohio, which, although not nationally known or distributed as yet, has been in use in several hundred homes in Ohio and Indiana and other nearby states for several months.

The use of the word "machine" in connection with this unit is somewhat of a misnomer since it is activated by a kerosene flame. The burners, a close-up view of which is shown in the accompanying illustration, are in a section entirely separated from the food compartment and are concealed from view. Once each day the housewife opens the small heating unit door on the lower left-hand side of the cabinet, pulls out the burner, fills the reservoir, which holds about a pint of kerosene, lights the two burners, slides them back into the cabinet and closes the door.

The burners have asbestos lighting wicks and when the fuel which lasts from an hour and fifteen minutes to an hour and half is entirely consumed the generation process is completed and the burners go out.

The only outside connection needed with the Superfax refrigerator is with the cold water supply line. No drain is required.

The food compartment is of one-piece porcelain enameled steel, with tracks for the shelves pressed into the lining. The outside is of sheet steel, finished in attractive silver gray, with the condenser tank and base in black. The door fixtures are nickel-plated.

The model shown here is 34" wide, 23" deep and 61½" high overall. The food compartment is 29½" high, 18" wide, 17" deep. Food storage space of 5 cu. ft. is provided. The net weight is 349 lbs. and the shipping weight 484 lbs. It is planned that other models and sizes wil be available soon.

According to the manufacturers it is not their plan to compete with electric refrigerators in any way but rather to supply a semi-automatic refrigeration for those homes who are not in a position to use either gas or electric refrigerators.

Burner Unit of the Superfax

ICE ENGINEER REVEALS POINTS OF INTEREST ABOUT ICE FORMATIONS

Wherever you have water you have ice, according to physicist Howard T. Barnes, McGill University, writing in the current number of *Refrigerating Engineering*. Water consists of two distinct varieties, one of which amounts to ice in molecular form, and even at the boiling point a substantial part of water may be in this form.

This fact, along with many others, discovered or applied by the author, proved striking to refrigerating engineers when Mr. Barnes addressed them recently. But most striking of all, was the fact that this knowledge could be applied practically as well as scientifically.

On the practical side, it has given engineers novel facts back of the technology of controlling formation and dispersion of ice. It has shown them that ice, as well as water, exists in several states and that it can be melted by light as well as heat.

On the scientific side it has given the scientist a record of careful laboratory work on the behavior of ice and water.

The author is one of the world's leaders in physics and the founder of a branch of engineering of his own, ice engineering. The object of this work is the destruction of winter ice, which is so harmful to navigation and power developments, in different bodies of water.

A recent text, of the same name as the above paper, "Ice Engineering," written by Barnes, tells of his adventurous experiences on land and sea in following this work. Not the least of these experiences being in connection with the demolition of dangerous Atlantic Ocean icebergs.

WESTINGHOUSE OFFERS NEW SMALL ELECTRIC REFRIGERATOR MOTOR

Westinghouse Electric & Manufacturing Co. has put in production a new small motor for electric refrigerators. It is of the repulsion start, induction run type, and the special feature of interest is an approved short-circuiting device. The new motor is very compact and is considered more positive in action than similar motors of the same type and application previously produced by the company's small motor division at the East Springfield, Mass., works.

Much engineering work is being carried on at this plant, including interesting experiments in building condenser motors, but the cost of this type is still too high to admit of its large-scale use in the refrigeration field.

ELECTRICAL LEAGUE OF ITHACA, N. Y. ORGANIZED

The Electrical League of Ithaca, New York, was formally organized and launched on a business program on October 15th. S. A. Swanson was elected president and W. G. Rhodes, secretary.

As part of its concurrent activity throughout the year, the Ithaca League will shortly apply to The Society for Electrical Development for a license to operate the Red Seal Plan. F. M. Houston, Commercial Manager of the New York properties, Associated Gas and Electric System and O. C. Small, Director of the League and Field Department of the S. E. D., as visiting speakers, outlined to the members present the market and merchandising possibilities of a league which is soundly organized and operating with a continuous and well-defined program.

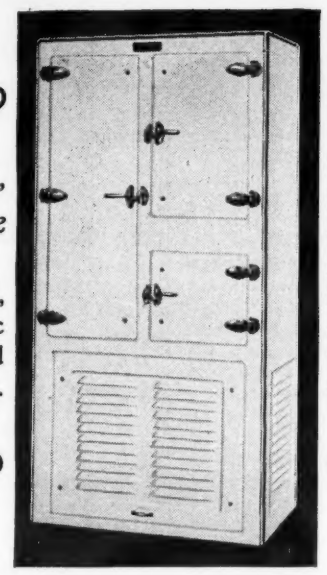
FRIGIDAIRE DEALERS ATTEND MEETING AT ALBANY BRANCH

More than 60 Frigidaire dealers from New York attended a meeting held on Oct. 15 at the Albany sales branch. R. F. Calloway, in charge of branches for Frigidaire Corp., gave a sales talk on "Proper Methods of Selling." Other officials who attended the meeting were H. H. Wampler, regional sales manager; W. V. Richards of the service department, and M. S. Lake, zone sales manager.

E. R. Legg Transferred

E. Roy Legg, formerly with Kelvinator Sales Corp. in the Pacific coast territory with headquarters at San Francisco, has been transferred to New England territory. Mr. Legg has devoted his attention principally to refrigeration as applied to the ice cream industry.

BOHN'S *Latest Achievement* — The New
BOHN "Super Quality" Refrigerator



Beautiful, Distinctive

Can be had in 5, 6, 7, 9 and 12 cubic foot net food storage capacity.

White Porcelain Enamel inside and outside. The machine compartment is ideal for storage space where remote installation is made.

[Featuring the Insulated Baffle Wall]

The lowest prices in our 31 years of manufacturing *"Super Quality"* Refrigerators

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

These models are on display at our own stores in

NEW YORK 5 East 46th Street | CHICAGO 227 No. Michigan Blvd. | BOSTON 707-709 Boylston Street

LEADERSHIP

One-piece Seamless Steel Cabinet
Rounded Corners & Edges
No Striping or Trimming
Smooth Panels—No Louvres
Larger Usable Shelf Area
Harmless, Non-odorous Refrigerant
Low Pressure Operation
Slow Speed Mechanism

THREE YEARS AGO, Welsbach placed before the public Refrigeration Units with cabinets of unsurpassed beauty—plain, simple of line, perfectly proportioned and made of one-piece seamless steel.

Today, the industry, following the Welsbach lead, is announcing cabinets following the same fundamental principles of design laid down by Welsbach three years ago . . .

From the very first, the *fundamental operation* of Welsbach was based on the use of a harmless, non-odorous refrigerant. A mechanism was developed which operates at Low Pressure—only twenty pounds—and Slow Speed—only 280 R. P. M.

Today there is a growing uneasiness concerning the future use of refrigerants having noxious qualities. More and more, city health officials and inspectors are looking askance at them, perturbed by the introduction of these unpleasant—even dangerous—gases into private homes and apartments.

We predict that it is only a matter of time before all manufacturers of mechanical refrigerators will be forced by official and public action into following the Welsbach principle of using a harmless, non-odorous refrigerant.

When that is done, you will see other manufacturers following where Welsbach has pioneered—with mechanical refrigerators operating under a fraction of the pressure so generally required today.

WELSBACH COMPANY
307 Ellis Street, Gloucester City, N. J.

Welsbach Cabinets and equipment . . . Household and Commercial . . . from foundry to finished product . . . made in the same plant

Welsbach *Low Pressure* Electric Refrigeration

FLINTLOCK CONDENSERS

Efficient—Economical Compact

Greater Efficiency at Less Cost

WRITE FOR OUR BOOKLET

FLINTLOCK CORPORATION
4461 W. Jefferson Ave.
DETROIT, - - MICH.

Five Best Arguments For Winter Refrigeration Sales

Viewpoint of Central Stations Expressed in Suggestions

Telegram to Electric Refrigeration News—

"The appreciation for yearly electric refrigeration is growing in leaps and bounds due to the increased educational advertising of electric refrigeration, manufacturers' arguments for selling electric refrigeration in winter: (1) Refrigerator may be conveniently located, free from exposure; (2) A season when one is in the home to enjoy its comforts and conveniences; (3) Foods spoil quickly due to extreme changes in temperatures; (4) Economical to operate, thus affording safe storage of food and less frequeent marketing; (5) modern equipment a joy in the home."

DIRECTOR OF HOME ECONOMICS,
Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

National Advertising Lessening Sales Resistance

Telegram to Electric Refrigeration News—

"National advertising noticeably lessening sales resistance among people having higher incomes than average, but present advertising is not appealing directly enough to average. We have evolved very attractive winter selling plan to appeal to average rather than try to increase appreciation. Five winter sales arguments we are using: (1) Only nineteen days out of year is natural refrigeration adequate; (2) Because of winter easy selling plan, why not buy now; (3) Rapidly changing temperatures in winter with heavier foods used, make it mandatory that greater care be exercised in keeping foods at correct temperatures; (4) Natural refrigeration causes food spoilage by freezing, in which vitamins and food cells are destroyed; (5) Cost of operating electric refrigeration with its advantages is cheaper than ice, even in winter."

FERN SNIDER,
Monongahela West Penn Public Service Co., Fairmont, West Virginia.

Public Appreciation Has Not Yet Become General

Special to Electric Refrigeration News—

"It is difficult to gauge the public appreciation of the need for year around refrigeration. I doubt if this appreciation has yet become general. If so, it is still probably subconscious appreciation. There is no doubt but that the effect of educational advertising of electric refrigerator manufacturers directed to women has been a big factor in paving the way for a rapid invasion of the homes by electric refrigeration.

"As to the five best arguments for sales use in winter, I suggest: (1) The electric refrigerator being designed to last over a period of many years, should be bought as readily in winter as in any other season of the year; (2) The refrigerator should be handily placed in a comfortable kitchen to avoid unnecessary steps and prevent exposing the housewife to the chills of the back porch or cold closets; (3) Installment payments, spread over a long period make it just as easy to buy in winter as in summer; (4) Buying a refrigerator in winter insures a well adjusted refrigerator by summer time, when the housewife wants frozen desserts most; (5) Purchasing during the winter avoids the usual summer rush and delay."

A. B. COLLINS, *Manager,*
Merchandise Sales Division, Alabama Power Co., Birmingham, Ala.

C. O. D. POSTAGE RATE WAS REDUCED ON OCT. 1

Unstamped Return Cards Offer Economy in Dealer Mailings of Advertising.

To stimulate the use of business reply cards and envelopes, the Post Office Department lowered the rates on Oct. 1 and simplified the rules and regulations regarding their use. The reduction on the cards was from 3 cents to 2 cents and on envelopes from 4 cents to 3 cents.

Permits to use the C. O. D. postage system are issued by local postmasters with the understanding that the permit holder guarantees to pay postage on all cards and envelopes that are returned. In this way a saving is effected because the individual or firm instead of prepaying postage on a number of cards or envelopes which are not returned now only pays for the direct benefits derived. The business reply cards or envelopes may now be distributed in any quantity by the permit holder, no minimum being prescribed. They may be distributed in the mails, or if no abuse results may be distributed outside of the mails.

The cards and envelopes will be accepted for return mailing at all post offices in the United States and its possessions, except the Canal Zone and the Philippine Islands. They should not be sent to any foreign countries, including Canada, Cuba, Mexico and the Republic of Panama, as they cannot be returned from any foreign country without prepayment of postage.

No deposit is required when the cards or envelopes are sent out. The postmaster will collect the proper postage before they are returned to the addressee.

ODORLESS!
Insulation
FOR
REFRIGERATORS

Insulite, the wood-fiber insulating board, remains free from odors even under the most drastic moisture conditions. The individual fibers of Insulite are chemically waterproofed and preserved in a manner which prevents "souring" or promotion of fungus growths, which cause rot and disintegration.

Fifteen years of faithful service in railway refrigerator cars has proven its durability, and qualifies its use in "better insulated refrigerators" because it will remain "sweet" and stand up and function during the entire life of any refrigerator.

Leading refrigerator manufacturers today are using Insulite for the above reasons, as well as its strength, accurately-cut-to-size features, and high insulating efficiency.

Technical details will be sent upon request with samples.

INSULITE
the Wood-Fiber Insulating Board
"Cut to size" samples and technical details will be sent upon request
The INSULITE COMPANY
Refrigerator Sales Department
737 Conway Building CHICAGO, ILL.

INCREASED ADVERTISING SUPPORT FOR MANUFACTURERS OF MONEL METAL TRIMMED REFRIGERATORS
Good Housekeeping
THE SATURDAY EVENING POST

Manufacturers of the best known makes of electric refrigerators have adopted Monel Metal trim. These manufacturers will profit by Monel Metal advertising reaching millions of refrigerator buyers.

MILLIONS OF WOMEN WILL BE TOLD OF MONEL METAL'S SUPERIOR PROPERTIES

NEXT year will see a still greater widening of the public consciousness of Monel Metal as a material for refrigerator trim and other household uses.

The Saturday Evening Post and Good Housekeeping Magazine will carry Monel Metal advertisements in color into nearly five million of the best American homes.

This advertising will tell housewives what refrigerator manufacturers already know—that Monel Metal brightens up the kitchen, that it is easily cleaned, that it harmonizes with modern color schemes and that it retains its silvery beauty for years on end.

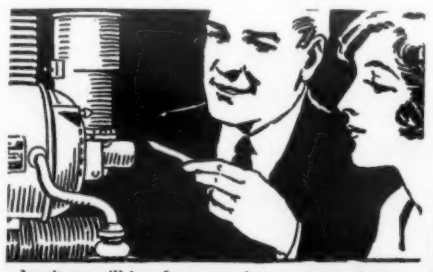
As a result of this impressive advertising reaching millions of homes, new millions of refrigerator buyers will accept Monel Metal trim as an indication of refrigerator quality.

Why not let us tell you more about Monel Metal and our plans for increased advertising?

Monel Metal is a technically controlled Nickel-Copper alloy of high Nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.

MONEL METAL
THE INTERNATIONAL NICKEL COMPANY (INC.) — MONEL METAL — 67 WALL STREET, NEW YORK, N. Y.

NOW...
Home Training in ELECTRIC REFRIGERATION



GREAT news for every man interested in electric refrigeration! Now a simplified, practical home training has been prepared by one of America's foremost authorities on refrigeration. Approved and sponsored by leading manufacturers. Mail coupon below for free information book.

Easy to Grasp

This course is utterly unlike any home study ever offered. In the first place, it is prepared by a practical and well known refrigeration engineer—J. B. Rathbun, who has designed small domestic machines, as well as refrigeration plants for the largest meat packers. It is so practical, so thorough and so easy to grasp that Col. Frank E. Smith, president of Servel Incorporated, writes:

"I am surprised at the thoroughness with which you have gone into this matter and I am sure that your Institute will be of great assistance to our industry in educating people interested in mechanical refrigeration. It will be a pleasure to cooperate with you in this work."

Mail coupon now for big free book "Opportunities In Electric Refrigeration." Learn about easy monthly payment plan, employment service, and "earn while you learn."

Manufacturers and Dealers—Enroll Your Men!

FREE BOOK

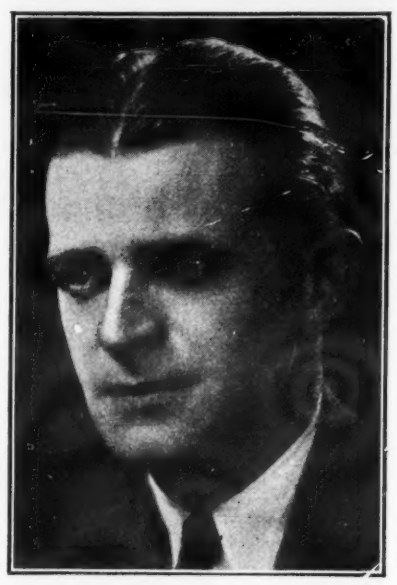
Utilities Engineering Institute,
Dept. 411, 3120 N. Clark St., Chicago, Ill.
Without obligation, send me your free book "Opportunities In Electric Refrigeration" and full information on your home training course.
Name.....
Address.....
City.....State.....
Position.....

Successful Xmas Sales Call For a Knowledge of Structural Features

Men Are Best Prospects Now And Differing From Women They Want To Know How It Is Made

By John T. Bartlett

"THERE used to be widespread belief among central stations that the weeks before Christmas were all right for small items, but not for the major appliances. You could expect to sell percolators, waffle irons, and the like, but not electric refrigerators, washing machines, and vacuum cleaners. We have come to know that an opposite condition exists for the large items. The weeks before Christmas make an exceptionally good period for electric refrigerator sales," said Ernest F. Stone, assistant general manager, Southern Colorado Power Co., Pueblo, Colorado, handling General Electric and Servel refrigerators.



William Reynolds

"Our policy for pre-Christmas selling puts special campaigns to one side, and gets behind the full line. Refrigerators are given the support in displays, advertising and salesmanship which comes from knowledge that they can be sold.

"Christmas selling of electric refrigerators differs fundamentally from selling at other seasons. The majority of inquirers are looking for gifts for wife or relative. In most cases the prospect is a man.

"The masculine prospect is different from the feminine. To sell electric refrigerators at Christmas an organization should be able to sell electric refrigerators to men. There is a fundamental difference between the man and woman inquirer—in that:

"The woman wants to know what it will do.

"The man wants to know how it is made.

"Competent Christmas salesmanship in electric refrigerators demands a thorough knowledge of structural features. The salesman must know the refrigerator mechanically.

"The sales battle is won or lost right here with most men. With women, on the contrary, there is next to no interest in technical details. They want to know what the machine will do.

"A good salesman can sell an electric refrigerator in much less time at Christmas than at other periods, on the average. There is always, of course, the inquirer who is an exception. Women shop around, men do not.

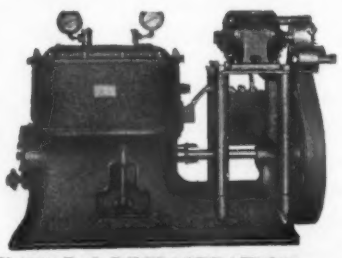
"The holiday season brings a thoughtfulness of others that can be utilized by the salesman. The appeal of labor made lighter is strong at all times but its possibilities are far greater at Christmas time. A skilled salesman can make the Christmas spirit his strongest sales force."

An effective Christmas sticker used by this company is an oval about 4 in. by 6 in. in maximum dimensions. A holly wreath encircles it within the Christmas-red edge. In green letters is the suggestion, "What Mother Really Wants."

There is a Christmas effect when this sticker is placed upon an electric refrigerator which places the appliance in harmony with the holiday atmosphere. The direct suggestion, undoubtedly, is a helpful thing.

Show Room Converted Into Garden for Public Demonstration

A charming summer garden made the background of a public demonstration given recently by the Puget Sound Power and Light Co., Seattle, Wash., distributors of General Electric refrigerators. The assembly room was transformed into an indoor garden by use of grass plots, shrubs, potted palms, garden ornaments and gay Japanese lanterns. Guests were seated at small tables and were served samples of maple mousse, cherry punch and wafers.



ELECTRIC REFRIGERATION DISTRIBUTORS AND DEALERS

You need the PEERLESS line of commercial units.

PEERLESS units give you a COMPLETE line, ranging from 1 to 10 tons.

Sixteen years of successful manufacturing and merchandising of ice machines are behind the PEERLESS name. Our record warrants your most exacting investigation.

Write or Wire

PEERLESS ICE MACHINE CO.

515 W. 35th St.

CHICAGO, ILL.

Carbonice Co. Changes Name to Avoid Confusion With Solid Carbonic

The Carbonice Co., Inc., 11 W. 42nd St., New York, N. Y., announce the changing of its name to the Carbo-Freezer Co. It has changed the name of its machine from Carbonicer to Carbo-Freezer and of its product from Carbonice to Carbofrost.

These changes have been made to avoid confusion with the name of the Solid Carbonic Co., Ltd., 100 E. 42nd St., New York, N. Y., whose product, solid carbon dioxide, is sold under the trade name Carbonice. There is no connection between the two companies.

Frigidaire Is Cake Contest Prize

A Frigidaire refrigerator is being offered as first prize in a loaf and fruit cake contest being held by the free electric cooking school of the Seattle (Wash.) *Times*. The contest began Oct. 29. The cooking school is an all electric one. The Frigidaire offered is a model AH-E-5650.

Thank You!

"Your issue of October 10th contains many articles of extreme interest and the writer believes that your editorial "Time and Temperature" to be a most excellent one indeed."—N. H. Hiller, Jr., Vilter Manufacturing Co., Milwaukee.

Correction

In a description of the exhibits at the Dairy Industries Convention at Cleveland which appeared in the Oct. 24 issue of the News the address of X. L. Refrigerating Co., was incorrectly given as Roosevelt Avenue, York, Pa. This should have been 1834 W. 59th St., Chicago, Illinois.

W. R. REYNOLDS APPOINTED ADVERTISING MANAGER OF SERVEL SALES, INC.

William R. Reynolds has been appointed advertising manager of Servel Sales, Inc. Mr. Reynolds has been associated with the Servel organization since 1926 and succeeds J. M. Bickel, who resigned to become sales manager of Holmes Products, Inc., New York, N. Y. Prior to joining Servel Mr. Reynolds was advertising manager of the New York and Queens Electric Light & Power Co., and at one time was a member of the sales department of the George Weiderman Electric Co.

During the war he was assigned to the U. S. N. Radio Communication Service, having the rank of chief radio operator.

SHOULD THE SPECIALTY SHOP CARRY ONE OR SEVERAL LINES?

Merchandising observers have been pointing out for some time how specialty shops are gradually broadening their lines. There are few specialty stores these days which still confine their stock to a single specialty. Now comes news to the effect that arrangements have been completed by Long's Hat Stores to sell, through twenty or more of the stores of this chain, a line of Kuppenheimer topcoats and overcoats.

Whether this trend away from the specialty shop idea will gain momentum is difficult to foresee. There is no doubt that the plan of confining a line has many advantages. On the other hand, it is also true that every specialty shop loses a large number of possible sales of related items and the question which each specialty store must answer for itself is whether these lost sales also represent lost profits.—*Printer's Ink.*

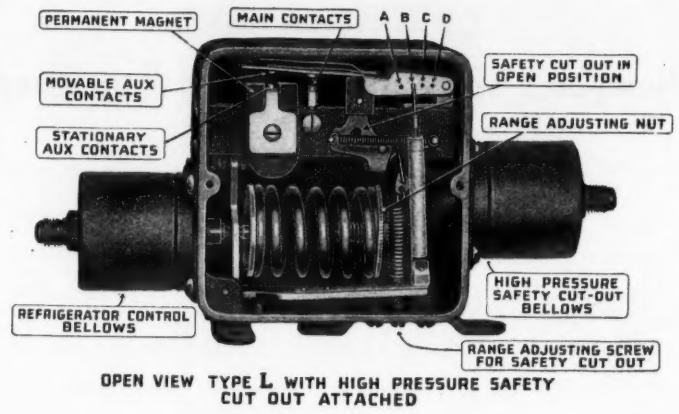
Sparklets, Inc., Appoints H. B. Hazelton as Sales Agent for Six States

Sparklets, Inc., New York, N. Y., announces the appointment of Harry B. Hazelton, Victoria Bldg., St. Louis, Mo., as Sparklet sales agent for Iowa, Missouri, Kansas, Nebraska, North and South Dakota.

San Jose Frigidaire Branch in New Quarters

The San Jose sales branch of the Frigidaire Corp. has moved from its old location at 33 East San Antonio Street, San Jose, Calif., to larger and more commodious display rooms at 315 South First Street. The new quarters were opened on Oct. 13. Refreshments were served to all visitors who attended the opening. R. D. Thompson is manager of the branch.

NEW PENN COMBINATION CONTROL and SAFETY SWITCH for REFRIGERATIVE UNITS



OPEN VIEW TYPE L WITH HIGH PRESSURE SAFETY CUT OUT ATTACHED

The Penn Electric Switch Co. now offers their regular Type L Magnet switch, provided with a high pressure safety cut-out, in addition to the regular temperature or pressure controlling mechanism, all in one compact unit. (See Cut.) The high pressure diaphragm is to be connected to the discharge side of the refrigeration system. In case an excess pressure is built up, due to any cause whatsoever, the safety feature opens the switch and stops the unit. When normal pressure has again been restored, this feature will permit the switch to close and the unit will continue to operate.

The operations of the high pressure safety element and controlling mechanism *are entirely independent and in no way affect each other.*

This combination control and high pressure safety switch can be furnished for pressure or temperature controlled systems using any of the usual refrigerants—excepting ammonia.

We solicit inquiries from manufacturers and others interested in such a control.

PENN ELECTRIC SWITCH CO., Des Moines, Iowa

Over 250,000 SATISFIED Users

"To the dealer in electrical refrigeration of any type, the prestige of McCray as a builder of fine cabinets has real profit value."

PIONEER in modern sanitary refrigerator construction, for 38 years McCray has held to an unyielding ideal of quality which is reflected in the remarkable service records of McCray installations.

McCray users have always been our best advertisements. This army of over 250,000 satisfied customers is striking evidence of that leadership which is further revealed in the fact that McCray is the world's largest manufacturer of refrigerators for all purposes.

In single stock units and complete built-to-order installations for the largest institution, McCray quality is held to this single high standard.

All McCray models may be used with electric or mechanical refrigeration of any type, or ice. Pure corkboard, sealed with hydrolene by a distinctive process, provides perfectly air-tight insulation.

Send for latest catalogs and further information about refrigerators to meet your specific need. No obligation, of course.

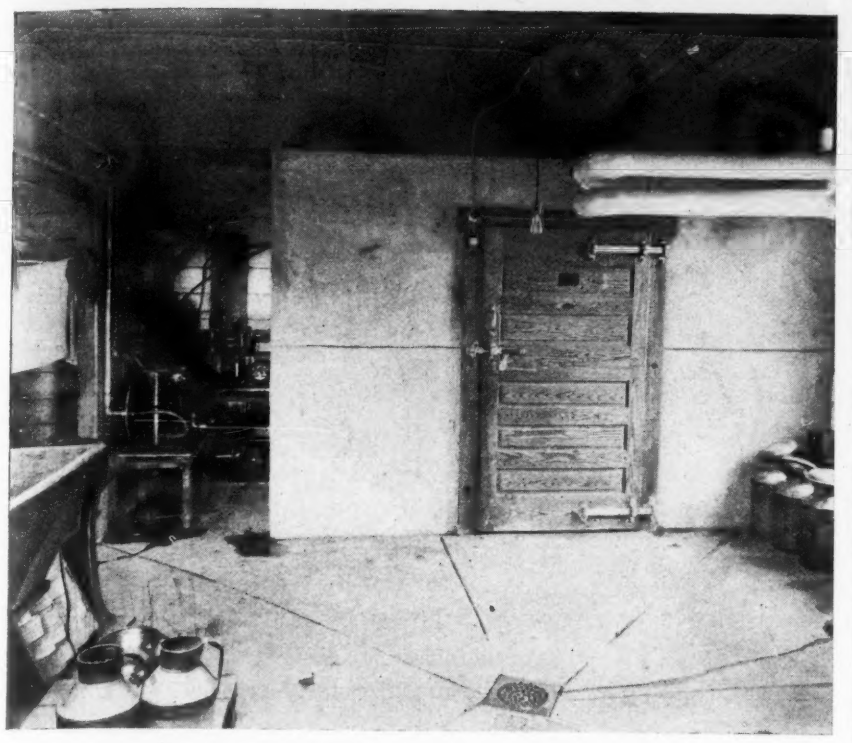
McCRAY REFRIGERATOR SALES CORPORATION

Dept. 66. Kendallville, Indiana

SALESROOMS IN ALL PRINCIPAL CITIES *(See Telephone Directory)*

McCRAY REFRIGERATORS

Frigidaire in Rhode Island Dairy Cools 700 Quarts of Milk Daily



Seven to eight hundred quarts of milk are cooled daily to a temperature of thirty-six to forty degrees Fahrenheit by a Frigidaire system operating in the Audette dairy, 88 Jenckes Ave., Central Falls, R. I.

The equipment shown in the photograph above consists of three ½ h. p model "N" compressors operating six 82X coils in a brine tank inside of the cooler which measures approximately 9'x7'x8'6".

However, since this photograph was taken the equipment has been changed to four 63F coils operated by a 1 h. p. compressor. The brine tank has been taken out of the cooling room and is now operated by four 22X coils and a model "C" compressor.

CLEAN THE CABINET BEFORE DELIVERY

Make it a point to see that every refrigerator that leaves your store is thoroughly clean—inside and out—before it is turned over to the customer. One of the strongest selling points is cleanliness. Most housewives do not understand the mechanics of the machine but there is no housewife who is interested enough in her house to want an electric refrigerator who does not definitely know a great deal about cleanliness.

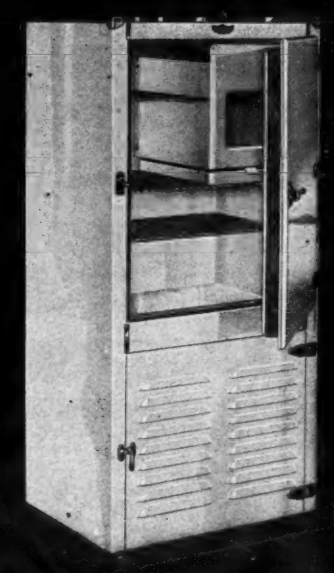
Mrs. K. G. Cornell, director of home service for Kelvinator Corp., suggests a solution of borax, 3 tablespoons to a quart of water, for washing out the interior of the refrigerator. After drying it well with a cloth, rinse with a weak solution of ammonia, 1 tablespoon to a quart of water, and leave the door open. This will rid the refrigerator of any odor. Mrs. Cornell suggests using ordinary soap and water for the exterior.

General Electric Offers Salesmen New "Booth Coat"

A "booth coat" to be worn at exhibits and shows, where salesmen are attending booths is being offered to the refrigeration sales organization of the General Electric Co.

The coat is of blue serge, and single breasted. It is made in a conservative business style. A breast pocket with the words, "Simplified Electric Refrigeration" in small orange letters and the "G. E." monogram, identifies the salesman in attendance at the booth.

AMERICA'S MOST BEAUTIFUL REFRIGERATOR



MODEL G-1

Rhinelander Airtite Refrigerators are built to accommodate any Standard Electric Unit - These cabinets sell easily because they combine correct construction with rare beauty - Write for prices and information on how you can increase your sales and profits by handling Rhinelander Airtites - - -

Rhinelander Refrigerator Co. - Rhinelander, Wis.

OPPORTUNITIES FOR FOREIGN TRADE LISTED BY DEPT. OF COMMERCE

Firms and individuals may obtain further information on the announcements listed below by applying to any one of the districts or co-operative offices of the Bureau of Foreign and Domestic Commerce. A list of the offices and their addresses appeared on page ten of the June issue of ELECTRIC REFRIGERATION NEWS.

The asterisks (*) indicate that the inquirer would act as both purchaser and agent.

33266 Ice-making plant, using carbon dioxide (Costa Rica)
33199 Carbon dioxide, solid (Japan)
33199 Ice-making plant, using carbon dioxide (Japan)
33265 Refrigerating machinery and ventilators (Netherlands)
*33204 Household electrical appliances (Portuguese East Africa)
*33284 Ice chests (South Africa)
33174 Lacquers and enamels (Germany)
33263 Vending machines, automatic (Poland)
*33239 Advertising signs, illuminated (Switzerland)
33352 Ice-making plant, using carbon dioxide (Italy)
33346 Household electrical appliances (Canada)
33333 Refrigerators, household (Germany)
33333 Refrigerators, household, electric (Germany)
33307 Ice-making plant, using carbon dioxide (Japan)
33314 Motors, electric from 1/5 to 5 horsepower (Switzerland)
33375 Oil burners. (Germany)
*33432 Refrigerators, electric. (Argentina)
*33473 Refrigerators, electric. (Germany)
*33473 Refrigerators, household. (Germany)
33481 Ice manufacturing machinery, portable. (British Guiana)
33454 Refrigerators, electric. (Germany)
33499 Household electrical appliances. (Jamaica)
*33667 Motors, electric. (Denmark)
33669 Refrigerators, electric. (Denmark)
33570 Refrigerating units, electric. (Austria)
*33668 Household electrical appliances. (Turkey)
33556 Dairy machinery. (Latvia)
33556 Refrigerating machinery. (Latvia)
33573 Refrigerators, household, electric. (Wales)
*33732 Refrigerators, household, electric. (Austria)
33759 Refrigerator cars. (Chile)
33768 Dairy machinery. (England)
33799 Refrigerators, household, electric. (England)
34154 Refrigerators, household, electric. (England)
34157 Refrigerators, household, electric. (Germany)
*34213 Heating and cooling installations. (Netherlands)
*34156 Refrigerators, household, electric. (Rumania)
34117 Iceless cooling cabinets. (Australia)
34163 Refrigerating machinery, carbonic. (France)
34163 Refrigerator units, electrical. (France)

H. L. DOHERTY SUBSIDIARIES SOLD 736 UNITS IN AUGUST

The public utility division of the Henry L. Doherty & Co., New York, N. Y., reports that 736 electric refrigerators were sold by its subsidiaries during the month of August. Toledo led the group with 268 sales while the Ohio Public Service and Public Service of Colorado each reported 132 sales. In the first eight months of this year the Doherty properties have sold 4,838 electric refrigerators.

G. E. Distributor Entertains Owners and Prospects

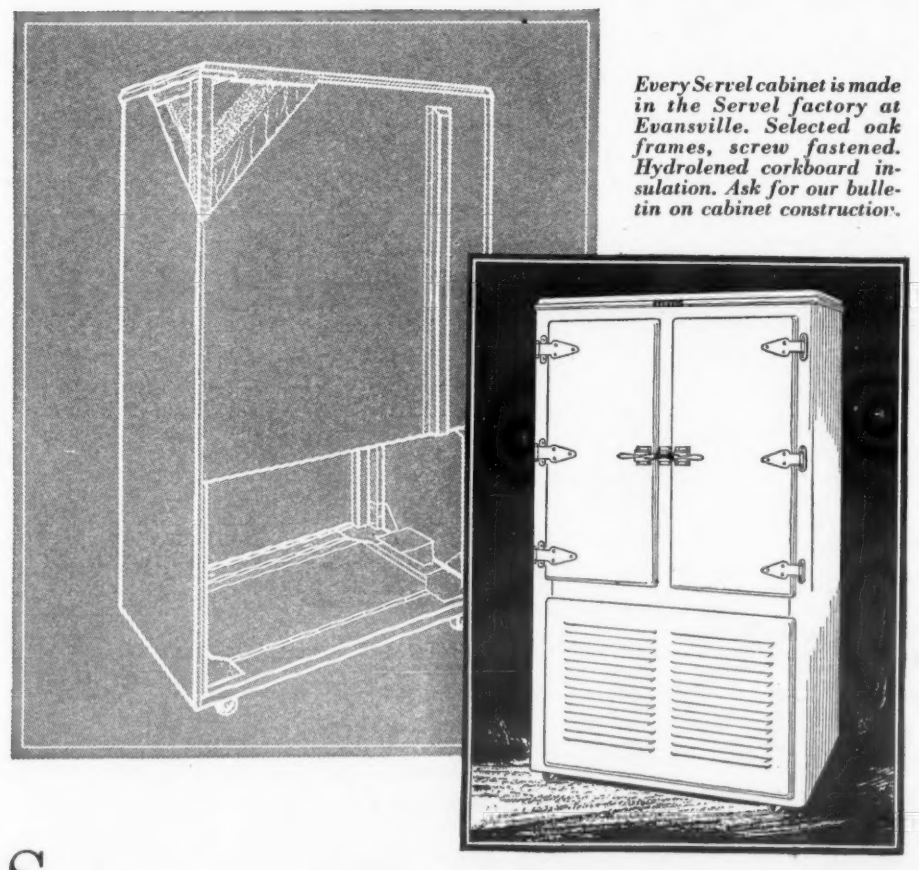
Owners of General Electric refrigerators and active prospects were entertained at a party by the Dallas A. Shafer & Co., Richmond, Va., distributors of General Electric refrigerators.

An advertisement was run in the local newspaper and a personal invitation mailed to each owner and prospect. Making ice cream in the refrigerator was a feature of the afternoon. Each guest received a Pyrex dish and cover as a favor.

Roller-Smith Appoints Detroit District Sales Agency

Appointment of Wise & Braisted, General Motors Bldg., Detroit, Mich., as district sales agent in Michigan has recently been announced by the Roller-Smith Co., 233 Broadway, New York, N. Y., makers of circuit breakers and other electrical instruments.

Servel sales are often closed on *Cabinets* alone



Every Servel cabinet is made in the Servel factory at Evansville. Selected oak frames, screw fastened. Hydrolened corkboard insulation. Ask for our bulletin on cabinet construction.

SERVEL dealers are finding that a few minutes spent in pointing out the high quality of materials and workmanship of Servel cabinets frequently closes the sale right there. Buyers appreciate the sturdy frames, ample insulation and one-piece fused porcelain liners of Servel. And dealers appreciate buyers.

If you are not yet a Servel dealer, write to

Servel Sales, Inc.

Factory and General Offices: Evansville, Indiana
Administrative Offices: 51 E. 42nd St., New York

OAKLAND CHICAGO LOS ANGELES

SERVEL Electric Refrigeration — Oak Frames — Welded Steel Liners — Fused Porcelain — Hydrolened Corkboard — Tested and Approved by Bureau of Foods, Sanitation and Health, Good Housekeeping Magazine

SULPHUR DIOXIDE

ANHYDROUS SULPHUR DIOXIDE ANALYZED

Universally used in the production and servicing of refrigerating machines.
Prepared for direct charging, with absolute protection afforded by complete laboratory analysis of each cylinder, large or small.
Exceptional dryness maintained as an additional safety factor
Ten sizes of cylinders from 2 lb. to 150 lb. capacity.

SO_2

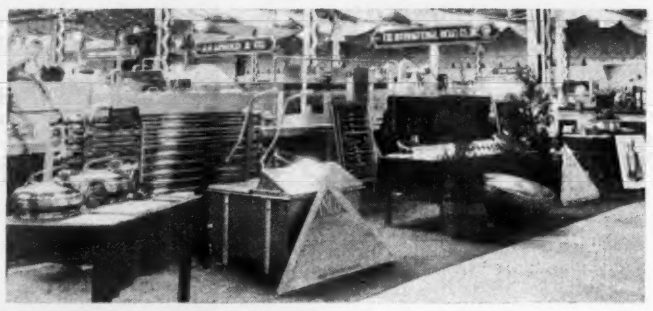
ANSUL CHEMICAL COMPANY
MARINETTE, WIS.

Canadian Distributor
GRASSELLI CHEMICAL CO. Ltd.
Toronto—Montreal

Western Subsidiary
ANSUL CHEMICAL CO. of Calif.
Modesto, Calif.

Additional Exhibits at the Cleveland Dairy Show

Above — Electrically refrigerated soda fountains in pleasing designs were displayed by Holderle Bros., Inc.



Above — Applications of Monel metal and pure nickel were shown by the International Nickel Co.

Left—R. H. Bozman & Bros., featured electrically refrigerated market display cases made by them.

Articles in Women's Magazines Show Popularity of Electric Refrigeration

By Helen Penn

IN one corner of most living rooms or, in the house somewhere, there is usually a bunch of magazines that interest the man not at all. But often there is an article tucked in with the other feminine interests that the man in electric refrigeration would find interesting, at least to the extent that it would interest him to know that his prospective customer—the housewife—is reading about electric appliances, public utilities and electric refrigeration.

Among the articles in the October issues of the housewife's magazine there was one in the *Journal of Home Economics* headed "Progress in Home Economics in Business." It is by Aubyn Chinn and says "Even more conspicuous (speaking of department stores having employed home economists to advise customers in choice of home furnishings) is the increased service from home economists offered by manufacturers of household appliances and public service corporations. One hundred fifty such workers have been added to home service departments during the last year. A noteworthy development is seen in the Women's Division of the N. E. L. A., each of whose twelve members represent a geographical region and has a committee of one manufacturer's representative from each state in her region.

"These women are grouped according to their interests, as lighting, laundry machines, vacuum cleaners, sewing machines, ranges, refrigerators and small electrical devices. These groups keep in touch with the experimental laboratories in which the information which they pass on to consumers is kept up-to-date. Because the Association recognizes that the increased use of household appliances is calling for more trained workers, it has a department to advise colleges regarding courses in the use of household equipment. Such courses have been introduced into three institutions in the last year and are in process of formation in two more."

Good Housekeeping includes refrigerators in an article on "Your Household Equipment" by Katherine A. Fisher, director of Good Housekeeping Institute. She says "Avoid buying 'cheap' equipment. A refrigerator bought purely on the basis of its low price may prove one of your most expensive purchases. It will cost much more than a good refrigerator to operate from day to day, and it will not keep your food in satisfactory condition. In fact, it may be responsible for much food waste, through spoilage. Unfortunately there are many poor refrigerators on the market today. A dependable guide to the purchase of a refrigerator is our List of Approved Refrigerators." Also in the same article, "If, in the beginning, you have any difficulty with a new piece of equipment, report at once to the dealer from whom you bought it or to the nearest service station. Do not let unsatisfactory service go on for months unreported."

The *Home Economist* for October gives the story of the two Swedish students who worked out the plan of refrigeration which gave origin to the Electrolux unit. The same issue carries a story by Maye Lovell, director of Home Service, Consolidated Gas Co., New York City. The article is entitled "My Work with a Public Utilities Company." The principle on which the department is based is given.

In an article in *Delineator*, "When Mother Dines Out," the refrigerator comes in for its share in the almost-prepared meal. It says "Desserts are simple to leave for the younger members of the family to serve, especially with mechanical refrigerators—rice pudding, tapioca cream, gelatin desserts, custards, fresh and canned fruit and sponge cake, frosted cakes, cookies, pies, ice-box pudding and ice cream. These absentee mothers depend, to a great extent,, on up-to-date appliances for the proper final cooking of the family's meal. Heat control, electric stove, pressure cooker, steamer, fireless, waterless cooker, regulated oven, electric table stove, were all reported as solving many difficulties.

Flower in Ice Dresses Up the Cold Meat Platter

Cold meats are much more appetizing when served from a piece of ice in which a flower has been frozen. A flat flower is arranged in the freezing tray from which the grid or cube mould has been removed, covered with water, and allowed to freeze. This placed on the platter and meat arranged on it makes an attractive dish.

Talks on Kelvinator-Esco Cooler Broadcast at Fair

Charles B. Moyer, Kelvinator distributor, Doylestown, Pa., exhibited the Esco electric milk cooling cabinet in operation with a Kelvinator compressor at the Doylestown Fair, recently. Talks on Esco-Kelvinator equipment were broadcast at the fair through large amplifiers.

St. Joseph Utility Sold 29 Units in September

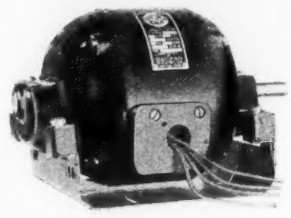
Twenty-nine electric refrigerators were sold by the St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo., during the month of September. Appliance sales for that period totaled $32,029.05 and J. B. Hayes was high salesman with $6,108.81.

Sparklets Head Visits South

A. Edwin Fein, Sparklets, Inc., 19-25 West 44th St., New York City, is taking a two-weeks sales trip including Dallas, Texas, Shreveport and New Orleans, La., Jackson, Miss., Mobile and Birmingham, Ala., Knoxville and Nashville, Tenn., Charleston, W. V., and Pittsburg, Pa.

Day-Fan
RADIO · MOTORS · FANS
PRODUCTS

R-I type Motor
Mounted on Cradle Base



A sample test motor will be shipped to any interested manufacturer on request.

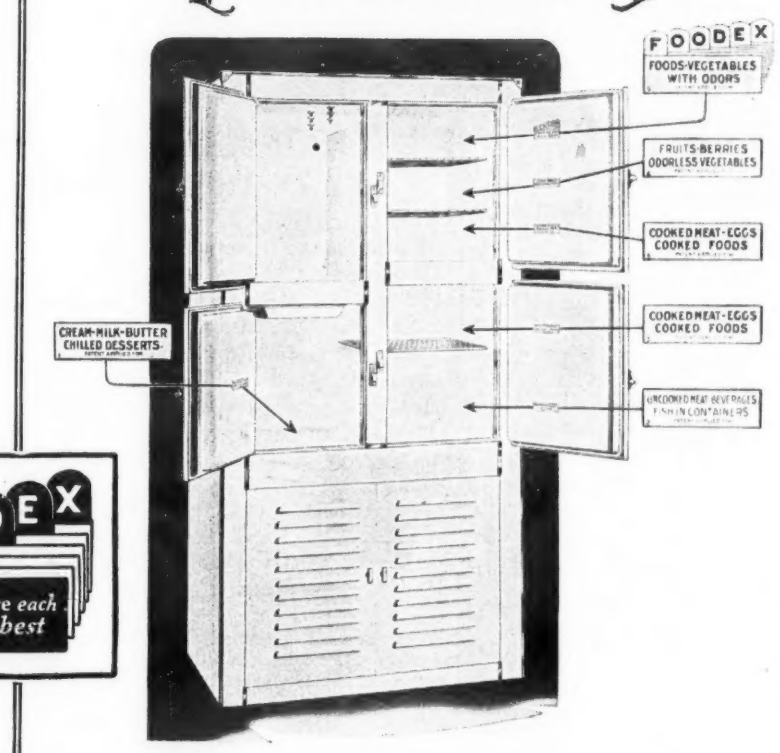
A motor that has proved itself on refrigeration applications.

A repulsion-induction motor is best adapted to appliances having a high starting torque where a minimum starting current is desired. Day-Fan repulsion motors have been most successful on refrigerating machines—efficient, quiet and dependable.

THE DAY-FAN ELECTRIC COMPANY
DAYTON, OHIO

ALASKA'S 51st YEAR

[FOODEX]



All alone because of FOODEX

EVERY cabinet in the new Alaska line for 1929 is obtainable without extra cost with the new Alaska Foodex feature.

This is an automatic food arrangement index on the inside of the cabinet doors. It "tells you where each food keeps best." Wins the interest of every housekeeper instantly and helps make sales.

No other cabinet has Foodex. It is Alaska's property exclusively and legally protected.

Small wonder that the colorful, smart designs of the new Alaska cabinets are receiving such a royal welcome.

If you would learn how Alaska cabinets with Foodex can help your sales, write or wire at once for our new proposition.

THE ALASKA REFRIGERATOR COMPANY, *Muskegon, Michigan*

BRANCH OFFICES
New York, N. Y. 206 Lexington Ave.
Chicago, Ill. 1508 American Furniture Mart Bldg.
Dallas, Texas Santa Fe Furniture Mart
Detroit, Mich. 2842 W. Grand Blvd.
Minneapolis, Minn. 603 Lumber Exchange
St. Louis, Mo. 2029 Belleview Ave.

CORK-BOARD INSULATED
ALASKA
ELECTRIC CABINETS

Mineral Wool
assures
Perfect Insulation for Cold Storage Construction

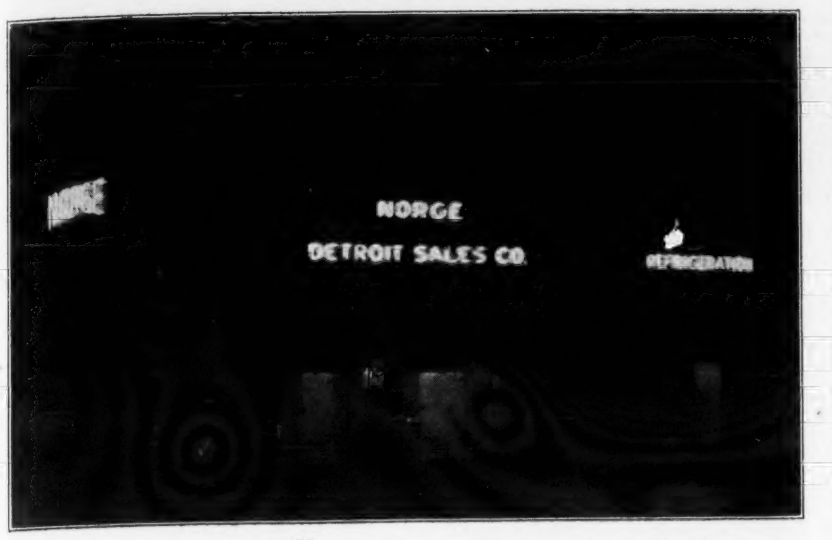
The low thermal conductivity necessary for maximum insulating efficiency is ideally supplied by this indestructible, vermin-proof and entirely mineral material.

Mineral Wool is rated 6.3 B. T. U. by the U. S. Bureau of Standards and the low cost makes its use a real economy.

Send for sample and descriptive folder.

U.S. MINERAL WOOL CO.
280 Madison Avenue, New York
Western Connection; Columbia Mineral Co., South Milwaukee, Wis.

A Striking Effect in Signs



Cold blue neon gas signs attract the attention of passers-by to the show room of the Norge Daniels Co., 2567 W. Grand Blvd., Detroit. The signs were supplied and are maintained by the Bellows-Claude Neon Co., Detroit.

SOUTHERN SECTION OF ELECTRICAL INSPECTORS FORMED AT NEW ORLEANS

Work of Members Saves Lives and Property Says Field Secretary

The protection of the manufacturers of electrical devices of all kinds, as well as of the public, will receive added assurance through the proper working of the International Association of Electrical Inspectors, it was pointed out on Oct. 22, at the organization meeting of the southern section of that organization at the offices of the New Orleans Public Service, Inc.

N. E. Cannady of Raleigh, N. C., was elected president of the newly organized group, L. T. Rogers, of Shreveport, La., first vice-president, H. N. Pye, of Atlanta, second vice-president, and C. S. Crawford, of Gretna, La., secretary-treasurer. Ten representatives of eastern and western sections of the Association met with the sixty Southerners. Selection of the next meeting place was left to the officers, and it was expected that they would pick Atlanta.

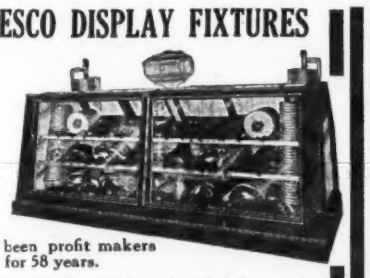
At the morning session, plans for the interchange of ideas through the publication of a bulletin were discussed.

Victor H. Tousley, filed secretary for the National Fire Protection Association, explained the responsibility of electrical inspectors to the public.

"On every inspector is a direct obligation to understand how to prevent fire damage and loss of life through defective wiring and equipment," Mr. Tousley said, in part. "The electrical inspector who does not know his job and realize its responsibilities is dangerous. One of the greatest functions of the International Association of Electrical Inspectors is to teach its membership how to save lives and property, and how best to discharge its obligations to the public and to itself."

By-laws were drafted and accepted at the afternoon session, and methods of increasing membership were discussed. C. J. Peacock, field engineer for the Underwriters' Laboratories, told the newly organized group that its members can do untold good not only for themselves, but for the underwriters and the public. He pointed out that new electrical devices often work well in the laboratory, but may develop defects in practical use. He urged that the membership report such defects.

THESCO DISPLAY FIXTURES



Have been profit makers for 58 years.

Write for Catalog E-92 and full information.

THE HOME OF THESCO PRODUCTS

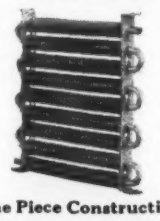
THE C. SCHMIDT CO.
Est. 1870 Inc. 1907
John and Livingston Streets
Cincinnati, Ohio

NOVOID CORKBOARD

For all commercial jobs you will find NOVOID Corkboard Insulation the most satisfactory insulating material for the purpose. It is convenient to use. It comes in 12"x36" and 24"x36" sheets, in 1", 1½", 2", 3", and 4" thicknesses. Shipped in strong fibre containers, each containing 72 board feet. Samples on request.

Write for Catalog E-2
CORK IMPORT CORP.
345-349 W. 40th St., New York
Branches in Principal Cities

Specify
ROME CONDENSERS



One Piece Construction
Rome Turney Radiator Co.
ROME, N. Y.

The leading refrigerator manufacturers are buying
BOSLEY'S
"Ice Saver" Gasket
for it is the best uniform quality insulation
Write us
The D. W. Bosley Company
1901 Carroll Ave. Chicago, Ill.

WANTED—MORE NEWS FOR THE SERVICE MAN

Gentlemen:

Enclosed find check for $3.00 covering an extension of three years to the NEWS. Miss it if it is late. Keep up the good work.

As a suggestion, a little more news for the service man.

Walter H. Thelan
198 Lafayette Ave.
Hawthorne, N. J.

Will Sell Frigidaire in Columbia

Frigidaire and Delco Light will be handled by the Columbia Refrigerating Co., Columbia, S. C., a recently organized firm.

I. C. Harrison is president of the company and Gaines W. Harrison is manager. The display rooms at 1309 Main St., formerly used by the Frigidaire Corp., will be used.

Installs Kelvinator in Model Home

The Evansville Planing Mill Co., Evansville, Ind., Kelvinator distributors, have installed a Kelvinator in the Evansville model home. This home has been established for three years. Invitations were issued by William Johann, manager of the company, and a program given on the day the Kelvinator was installed.

Copeland-Esco Coolers Shown at Eastern States Exposition

Several sizes of Esco electric milk cooling cabinets were exhibited at the Eastern States Exposition at Springfield, Mass., recently. The cabinets were in operation with Copeland electric refrigeration units.

RECENT INSTALLATIONS REPORTED TO THE NEWS

Sixty General Electric refrigerators will be installed in the Crest View apartments, located in one of the exclusive residential districts of San Francisco. The installation will be made by H. B. Rector, local dealer in General Electric refrigerators. Mr. Rector says the owner of the apartment is considering this type of refrigeration for two other apartments.

A Kelvinator has been installed by the Manning Electrical Co., Del Rio, Tex., in the home of A. A. Baker on his ranch near Comstock.

The Roddy Apartments recently completed in Temple, Texas, will be equipped with NP-5 models of Copeland refrigerators.

The largest order for electric refrigerators ever booked in Bismarck, N. Dakota, was secured by Reibold-Williamson, Inc., dealer in General Electric Refrigerators. Twenty-two refrigerators will be installed in the Person Court Apartment. Andrew Person is the owner of the apartment building.

The Woodward apartments at Staunton, Va., have been equipped with Electrolux refrigerators by the Consumers Utilities Co., Staunton, Va.

L. R. Bricknell, of Dunbar, Nebr., is having a General Electric refrigerator installed by the Redman-Maytag Co., Nebraska City.

Frigidaire equipment has been installed in the Jackson Memorial hospital, Miami, Fla., by the Domestic Light Co. of Miami.

W. R. Gilchrist, Clinton, Okla., has just completed an installation for the Bungalo, in which a model WB Kelvinator is connected to a 10 hole ice cream cabinet and fountain and also to a large Leonard refrigerator for the storage of milk, meats and sundries. Other recent installations include:

The Ennis Market, Thomas, Okla., Kelvinator equipment for a 6x8x10 cooler and 8 foot display counter.

Geo. Aden, Clinton, Okla., 8 foot display and Kelvinator equipment.

Winters Cafe, Weatherford, Okla., large Leonard Refrigerator with Kelvinator equipment.

Merchants Cafe, Weatherford, Okla., large Leonard Cabinet with Kelvinator equipment and water cooler.

Lain Furniture Co., Cordell, Okla., has installed for Joe Wilson in the Humpty Dumpty Store, Kelvinator equipment for a 14 foot display counter and a 10x12x10 meat cooler. Additional jobs include:

Yates & Coombs, Elk City, Okla., 14 foot display counter with Kelvinator equipment.

Cordell Cafe, Kelvinator equipment.

Wide-A-Wake Cafe, Kelvinator equipment.

Cordell Hospital, Kelvinator equipment.

E. E. Wilson, Weatherford, Okla., has completed the installation of Frigidaire water cooling system for Shulze Baking Co., Clinton, Okla. Also the following sales:

Hawks Cafe, Clinton, Okla., Frigidaire equipment.

Sneed Grocery, Clinton, Okla., Frigidaire Cabinet.

Ten General Electric water coolers have been installed in the offices of the H. M. Byllesby Co., 231 So. LaSalle St., Chicago, Ill., by R. Cooper, Jr., Inc.

George Belsey Co., Los Angeles, Calif., reports the installation of a General Electric refrigerator in Bebe Daniel's studio apartment.

The Electric Refrigerator Co., Spokane, Wash., has installed a second General Electric refrigerator in the Sacred Heart Hospital at Spokane. Serums and other fluids used at the hospital are kept in the two large model General Electric refrigerators.

LASSEN — TEMPERATURE — PRESSURE — CONTROLS
POSITIVE RANGE AND DIFFERENTIAL ADJUSTMENT
NON-DETERIORATING MERCURY TUBE SWITCH—MEET ALL REQUIREMENTS
GOODNOW & BLAKE MFG. CO. 3840 BEAVER STREET DETROIT, MICH.

Quiet - Dependable
CON-TAC-TOR
CONTROLS
for
Refrigeration Units

Manufacturers of refrigerating equipment, both domestic and commercial, can profit from the simple dependability, the silent operation, of Con-Tac-Tor Controls. Write for Bulletin 121 and full information.

ABSOLUTE CON-TAC-TOR CORPORATION
ELKHART, INDIANA

Model 413

CABINETS BY
Seeger
SAINT PAUL

Just one of the many different styles and sizes, in either oak or porcelain exteriors, of Commercial Cabinets by Seeger, for Hotels, Restaurants, Clubs, Shops, Hospitals, Grocers and Florists.

STOCK SELECTION OR BUILT TO ORDER

SEEGER REFRIGERATOR COMPANY

NEW YORK 389 Madison Ave. | BOSTON 26-28 Providence St. | ATLANTA 392-4-6 Spring St. N. W. | LOS ANGELES 1340 E. Sixth St. | CHICAGO 228 No. LaSalle St. | SEATTLE 1119 Fourth Ave.

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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NOVEMBER 7, 1928

Food Protection

A FEW years ago, when the big refrigeration advertising campaigns were being planned, careful analysis was made to determine the basic appeals to be used in the advertising copy. All of the attractive features of this new service for the home were studied, one by one, in an effort to evaluate them as selling tools. Cleanliness, convenience, economy, health, pride of possession—all possible appeals were considered.

Experience gained in selling washing machines, vacuum cleaners, automobiles, radios and other commodities, was called upon for whatever light it might shed upon the problem. Comparison was made with the methods used in successful campaigns in order to take advantage of such principles or ideas as might be applicable to the product under consideration. Some very capable advertising men were engaged in this activity. On several occasions the advertising men from the leading competitive companies had an opportunity to meet and discuss their views and findings. These meetings, which resulted from the initial co-operative movement in the industry, undoubtedly had an important influence in molding opinion and in directing the later advertising of individual companies into highly constructive channels.

Some of the earlier advertising had, so to speak, gone off half-cocked. The natural tendency is for the mind to travel from the known to the unknown, and it is not surprising that the first advertisements were largely devoted to a direct contrast between the electric refrigerator and the ice box. From the ice box, the spotlight was soon diverted to the iceman. Here was a target to shoot at and gleefully the copywriter set upon him. But even before the organized ice industry, smarting under the taunts and insults of electric refrigeration advertising, began to strike back, the thorough students were thinking in terms of a more fundamental approach.

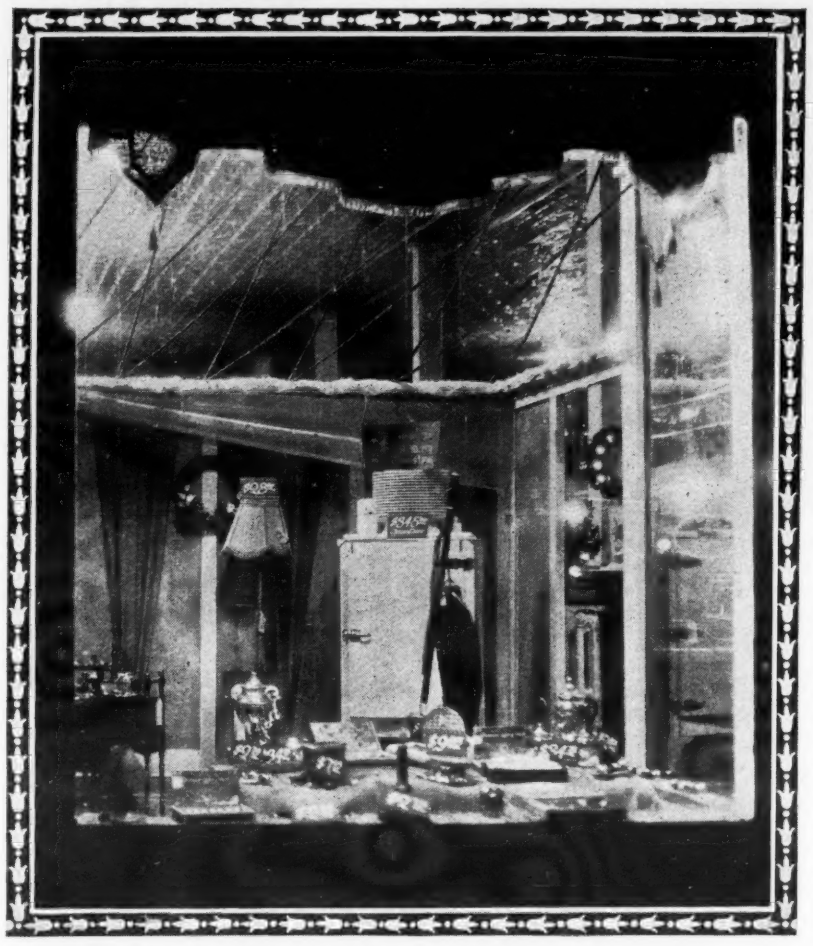
Seeking a common denominator for the various parts of a complete presentation, thought was finally concentrated upon food—food protection. The history of food protection methods was traced back through the centuries. An amazing and dramatic story was uncovered. Food protection, it appears, has been a problem down through the ages. Delving into the subject we have come to realize that food protection has been, and still is, one of the great problems of civilization.

Even in these plenteous times we are conscious of the fact that the quest for food has long been the accepted job for the man of the family. Likewise, it has been the task of the women of the household to prepare and serve the food. Another responsibility of women, one which has frequently been overlooked, has been that of *protecting* the food from the time it is acquired until needed to feed the family. Within the memory of the present generation the food supply has caught up with the demand. Material prosperity, plus railroads and cold storage warehouses, have made it possible to obtain raw food when and where wanted. But to a large extent the problem of the housewife has remained. Her burden has been alleviated, it is true, by advancement in methods of food *preservation* and by the growth in retail distributing facilities. With a delicatessen around the corner and a can-opener in the kitchen, the city dweller has found a temporary answer to the problem, although it has proved none too satisfying to those with memories of the farm.

It is generally agreed that food protection is the real economic service rendered by electric refrigeration in the home. Food protection, therefore, has been the basic theme for a large amount of educational advertising. Much of this advertising, it should be understood, was designed "to sell the idea" of electric refrigeration in a broad way and it was not expected to create an immediate "demand" for the product. It is well known that other appeals are equally effective, if not more so, in making actual sales. For example, the psychological factors which are summed up by advertising men in the phrase "pride of possession," are generally admitted to be most potent aids to the salesmen.

The fact remains that food protection is the basic appeal and this thought comes to the front in considering winter sales. Cool drinks and dainty desserts lose some of their glamour in zero weather but food protection is not one whit less a problem in winter than in summer, as every housewife well knows. Men, unfortunately, are not always aware of the difficulties of preventing food spoilage during the winter. Special effort is needed in advertising and by the salesmen to drive home the arguments for adequate food protection during the period when both indoor heat and outdoor cold are inimical to food safety. Now is the time to emphasize food protection in an all-industry effort to convince the public of the year-round need for electric refrigeration in the home.

A Christmas Appliance Display



A window display by Timmons Furniture Co., Harvey, Ill.

INDUSTRY NEEDS AN ASSOCIATION

From an address by R. R. Thompson, sales manager, Refrigeration Division, Welsbach Co. (See page 1 for complete text.)

This industry stands today in *vital need* of a co-operative trade association, and not only to popularize the product but for other reasons I will mention.

There have been attempts in this direction and some exist today, but laggard, because there has never been a complete meeting of the minds of the several interests concerned. Time is changing conditions; let's just for a moment analyse the situation today—here are a number of points for consideration:

(1) No one group will be able to dominate the small-unit industry. There is too great financial strength, merit of product and determination of purpose with at least three or four manufacturers to permit this to become possible.

(2) The possibility of a "miraculous invention" turning us topsy-turvy appears extremely remote, even in this day of miracles. Let us assume then that the patent situation of today will continue. This business is free to all comers, basic protection is impossible, yet there is exclusive merit in a number of products.

(3) The Central station industry has been the chief beneficiary of our efforts. Our creations and co-operative marketing effort with them has placed millions of kilowatt hours load on their lines in a few short years. They are not ungrateful, their response to the suggestions of the majority group of manufacturers would, I feel confident, be quick and liberal.

(4) In the cause of more economical production and installation, the work towards engineering standardization could well be expedited. It today lacks the impetus of hearty, enthusiastic effort.

(5) Competitive selling practices to the consumer are evidencing that an unstable situation exists here. No industry ever won public confidence by fighting itself.

Now, all of these points, and more, show that while we have a grip on a field of enormous potentiality, our way of thinking is still not clear and that we are evidencing growing pains. The sooner we create the means to co-ordinate our efforts to a common end, the sooner our sales will multiply and we will have an enviable place in this race for the public's dollar. We are all concerned, be our jobs technical or sales. This industry needs a trade association that will bring together all the factors at interest. I hope the time is ripe for this to be quickly done and I solicit your support of its early formation.

REQUESTS FOR INFORMATION

Readers who can assist in furnishing correct answers to inquiries or who can supply additional information are invited to address Electric Refrigeration News, referring to the query number.

Rubber Ice Trays

Query No. 145—An Atlantic City representative of an electric refrigerator manufacturer writes, "In previous issues of ELECTRIC REFRIGERATION NEWS you have carried advertisements of rubber ice trays for electric refrigerator units. I have had two inquiries about them and am enclosing the addresses of two men that desire to contact with the makers."

Note—We would refer you to Copeman Laboratories Co., 1715 Detroit St., Flint, Mich.—Editor.

Silverice Balls

Query No. 146—A distributor of electric refrigerators in Burlington, Vt., writes as follows: "Will you please give us the address of the manufacturer of the small silver or nickel-plated balls used in connection with electric refrigeration? These are used in place of regular ice cubes in drinks, etc."

Note—The B. Altman Co., Fifth Avenue, New York, N. Y., and Marshall Field & Co., Chicago, Ill., are distributors for Silverice balls.—Editor.

Wants Agency

Query No. 147—A concern in Australia acting as manufacturers agents sends the following request: "We write to ask if you would be good enough, if the opportunity occurs, to place our name before any manufacturers of household electric refrigerators as a firm wishing to obtain sales representation for competitive line to Copeland, Kelvinator, Servel and others on this market. If you can do this service for us kindly inform such people that it would save time for them to send us full literatures, prices discounts, etc.

"We are also interested in a similar freezing unit to "Icy-Ball" controlled by the Crosley Radio Corp., Cincinnati, which is generated by heat and for which there is a great sales opportunity here in the back country where electricity is not available. If a similar unit to this can be traced by you we are quite confident of giving immediate and important order for same."

Wants to Buy Drain Traps

Query No. 148. A Chicago manufacturer of kitchen equipment inquires: "Can you tell us where we can obtain the stamping used as a trap on one-inch tubing for the drain on refrigerators? We have found that some of our customers require a drain rather than a defrosting pan due to the fact that on multiple hook-ups many of the tenants remove the pan and it is not replaced when the time comes for defrosting."

Interested in Soda Fountains

Query No. 149. A distributor in Mainz-Kostheim, Germany, writes: "We are much interested in soda fountains and would be pleased to have you give us the names of some soda fountain manufacturers or have them forward some literature to us."

Related Merchandise

Query No. 150—A Kelvinator firm in McAllen, Texas, writes: "Would you please send us the names of the companies that make Silverice balls, Benjamin porcelain refrigerator dishes and Pyrex dishes We would like to have this information just as soon as possible so we can have a supply on hand by Christmas time."

Note—Silverice balls are distributed by B. Altman & Co., Fifth Ave., New York City, and by Marshall Field & Co., Chicago, Ill. Benjamin porcelain refrigerator dishes are made by the Benjamin Electric Manufacturing Co., 120 S. Sangamon St., Chicago, Ill. Pyrex dishes are made by the Corning Glass Works, Corning, N. Y.—Editor.

Chrome Plating

Query No. 151—An electric refrigerator dealer in Glenn Falls, N. Y., writes: "Will you kindly send us the name of a company that will do chrome plating. We have some refrigerator hardware which we desire to change from nickel to chrome?"

Note—Evaco Industries, 1329 E. Vernor, Detroit, Mich., do chrome plating.—Editor.

Welsbach Commercial Equipment

Query No. 152—A subscriber in Dallas, Tex., asks: "Will you be kind enough to send some information on Welsbach commercial equipment?"

Note—See address by R. R. Thompson, general sales manager, refrigeration division of the Welsbach Co., which is printed elsewhere in this issue.—Editor.

Sales in Germany

Query No. 153—"I understand you are in a position to inform me which of the electric refrigerators have representatives in Germany, or are sold for Germany, and which are not. If you would be kind enough to send me a list of those which are not sold, I shall greatly appreciate it."—H. H., New York City.

Note—In February, 1928, Fayette W. Allport, American Commercial Attache, U. S. Department of Commerce, 21 Friedrich Ebertstrasse, Berlin, reported that the following firms were selling American refrigerating equipment in Germany:

Erste Asperger Eisschrankfabrik Carl Fink, Asperg, Wuerttemberg.

Frigidaire G. m. b. H., Berlin Luetzowplatz.

Hugo Henseler, Berlin, Friedrichstrasse.

Bamberger, Leroi, Frankfurt am Main.

Ignatz Gellert & Co., Wien 111, Gegelgasse 27.

PLANS BEING LAID FOR 1929 N.E.L.A. CONVENTION

The 52nd annual N. E. L. A. convention will be held in Atlantic City June 3-7, in the gigantic new Municipal Auditorium now under construction, instead of on the Million Dollar Pier as in the past. The 1929 program calls for fewer business sessions than have been held in the past and no committee reports will be presented from the platform in general sessions. Reports will be printed and distributed so as to allow more time to be given over to addresses.

Instead of parallel sessions of the four national sections of the association, meetings will be held on the afternoons of three days to give the delegates the opportunity to attend at least three sectional meetings. President P. S. Arkwright has outlined the following tentative program for the 1928 convention.

After trying to plug the vacuum cleaner cord into the speaking tube, the Man Whose Wife Is Away emptied the water under the ice box last night, and put in some fresh.

In the six years preceding 1927, milk production went from 99,000,000,000 pounds per annum to 120,000,000,000.

Everything in the kitchen now being lacquered Chinese red or a tasty Indian yellow, a Far Western public utility has gone in for colored phone poles.

"The Ice Industry is emerging from its chief commercial drawbacks—lack of outside competition. The widespread advertising of mechanical units has made millions of people conscious of the need of home refrigeration of food, and added millions of tons of ice consumption. Ice is, and always will be, the refrigerant for the masses."—From an advertisement of National Association of Ice Industries.

And among those sales arguments—The man of the house was persuaded by the salesman to clean the ice box—drain pipe and all. He bought his wife an electric refrigerator.

Total import of ice into Great Britain and northern Ireland during September, 1928, was 625 tons.

Gus Mayer Gives G. E. Men a Formula for Successful Selling

An Illustrated Talk Which Inspired Salesmen at the Recent Series of Distribution Meetings

DURING the early days of Klondike glory, Hank Hazard gathered together all his worldly possessions and started for the wonderful new land of promise, but on the boat up, his love for the ancient and honorable game of poker got the better of his judgment and when the boat pulled up at the Alaskan Shore, the one reason he was able to walk down the gangplank properly clothed was that those of his bunch thought the weather a little too severe.

Hank was in a deuce of a fix; he didn't have any money; couldn't pay his passage back, so he trudged along following the crowd and toward the end of the first day his foot kicked a little package; it contained an old razor, a mug, and a bunch of shaving material. He was about to throw it away because he never shaved himself in his life. Presto! Fate has put into Hank's hands the way of making a living. That night Hank worked long and diligently in his shack and next morning there appeared, fluttering in the breeze, a roughly lettered sign—"Hank Hazard, Tonsorial Artist." It's a question who suffered most the first day, Hank Hazard or his victims; and the one reason Hank didn't represent a notch on a bad man's gun was because the bad man thought he could have more fun in playing the same joke on others by having them visit the new barber; so Hank sawed away and before long he got to be a pretty fair barber.

Gus Mayer

I have told you that story because it tells just exactly how most men stumble into the sales profession and I dare say, that most of you entered the field of salesmanship through that portal.

Salesmanship is a glorious thing. The success of our entire commercial structure depends upon it and in the final analysis there is only one kind of selling, and that is—retail selling—selling to the ultimate consumer. We might prevail upon your distributor to buy a train load of refrigerators from us, and he in turn may prevail upon his retail outlets to take the train load of refrigerators off his hands. Up to that time, however, nothing has been accomplished except a transfer of merchandise from one warehouse to another and no selling has been or will be done until the retail salesman has finally passed those refrigerators on to the ultimate consumer. If you salesmen stop selling refrigerators for any length of time, the accumulation of stock would become so great that our factories would have to shut down. Think what would happen to the automobile business if every automobile salesman in the United States should stop selling automobiles. Why, it would create a panic in that industry in a very short time. Of course, many people would buy, but many more would not. How few people buy life insurance? I dare say 75% of the life insurance is sold rather than bought, and yet, every man will agree that life insurance is something which everyone should have. When you consider all of these things, it doesn't take a wide stretch of imagination to see that the salesman in truth, is the vanguard of prosperity, because without him the wheels of industry would soon stop. And what a pity it is that salesmanship, important as it is, should represent that position which any man who didn't know what in the world he would do for a living might hang on to. It seems to be the general opinion that salesmanship is the haven of failures.

Now the truth of the matter is that salesmanship is a profession which cannot be mastered by wishing any more than could you become a doctor, lawyer, dentist, plumber, carpenter, or electrican by the same method. How foolish it would be to ask someone to fill a tooth or remove an appendix if they had not received proper training and education along those lines; or to build a house, install a water system, or wiring system, if they had not first served an apprenticeship. You agree that that would be entirely out of the question. Yet, you think that anyone could successfully sell merchandise with little, if any, preparation or training, in spite of the fact that a successful salesman in most instances can make more money in six months than the average man in any other profession could make in a year.

There is a formula for selling merchandise successfully, (just as surely as there is a formula for putting in plumbing fixtures, and if the salesman spent as much time and effort in mastering the formula of selling as the plumber does in mastering the formula of plumbing, he could write his own ticket.

To become a plumber a man must hire out as apprentice for the magnificent salary of $10.00 a week. He serves an apprenticeship from three to four years digging ditches and doing all of the other unpleasant things which are necessary in the plumber's business—and for what? To become a plumber. And after he is accepted into the inner circle of plumbers he receives, after he is an expert, $1.25 an hour, or $10.00 a day for eight hours' work. If he works four hours he receives $5.00. In other words, he gets paid for just what he does. But the best he can earn as long as he remains a plumber is $10.00 a day. On the other hand, a man wants to become a salesman. He would hardly consider serving an apprenticeship for three months let alone three years. Still, if he studied as diligently and worked as hard as the apprentice plumber, there would be no comparison to their relative earnings. But most men simply will not apply themselves, and for that reason this magic formula of selling remains to them always a myth. But there *IS* a formula, nevertheless and it can be mastered; and those who master it might, like Edmond Dantes in the "Count of Monte Cristo" say, "The World Is Mine."

Know the Need of That Which You Are Selling

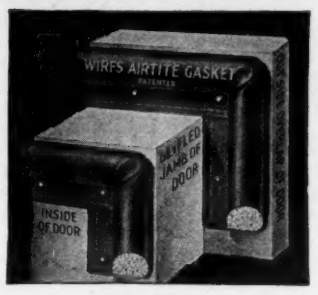
To become a salesman there are certain fundamental principles which are necessary and the first is—"*Know the need of that which you are selling.*" It does not take long to say that, but it takes an awfully long time to assimilate it completely. You must see the need of your product so completely that you just naturally feel sorry for everyone who does not use it. Just as you would feel sorry for any man you saw walking down the street in zero weather without an overcoat. Of course you are thinking now that you are sold on your product but are you really? Have you reached that stage of being sold where you finally say to yourself "By George, this is a good thing, which I am selling, and I am going to buy one myself." I shall not embarrass you by asking how many among you have electric refrigerators in their own homes. If you don't have one, it must be because you do not see the need of it. I can't imagine myself trying to sell something to someone when I am not well enough sold on it to use it myself. I could not be convincing in my presentation. That is just the same as a fellow trying to sell automobiles when he rides around on a bicycle. Yes, sir, if you want to be a success at selling, you must first *know the need of that which you are selling.*

Love Your Work

The second necessity in mastering this magic formula is "*Love Your Work.*" You must rather be a salesman than anything you can think of. If someone came in this meeting now and offered everyone here a salary of $15,000.00 a year and gave us the choice of doing any kind of work we wanted to do, how many would stand up and say "I want to be a salesman"? Why, don't you know, there would be a lot of you who would rather be school teachers, actors, perhaps firemen or policemen. It is my opinion that you can not be very successful at any thing unless you love that particular job. But I know from experience that this applies to salesmen. You must love your work to that point where ball games, moving picture shows and other diversions are of secondary consideration. Getting right down to brass tacks, I say loving your work is a necessity because if you don't love your work (and this applies to me as well as to you) you won't work. And that seems to be the prevailing ailment with all of us—we are lazy—we don't want to hit the ball and if we love our work sufficiently, this wouldn't be the case. How many of us spend the most productive hours of our day gazing in drug store windows, watching the corn cure expert removing a corn from a wax foot, or sitting in the park watching the old man feed the pigeons, or standing down on the corner watching some safe movers getting a safe down from the second story window, or best of all, watching the old steam shovel cutting a hole in the ground down on the corner. Yes sir, you can't beat it. If you want to sell refrigerators, or anything else, you have got to spend your time talking intelligently to prospects and the more prospects you talk to and the more intelligently you talk, the more refrigerators you will sell. And to do this you must *Love Your Work.*

After you have those two fundamental requirements the rest is easy, or I should say, comparatively easy. You should plan your work or your attack on the prospect just as the contractor plans the building of a house. The contractor would not attempt to put on the roof before the walls were built, neither would he attempt to finish the interior before the foundation was built. Likewise, the salesman cannot possibly hope to sell a refrigerator without first creating a desire for it and he cannot hope to create desire without first

(*Turn to Page* 12)



Wirfs Gasket *assures* Electrical Refrigeration Efficiency

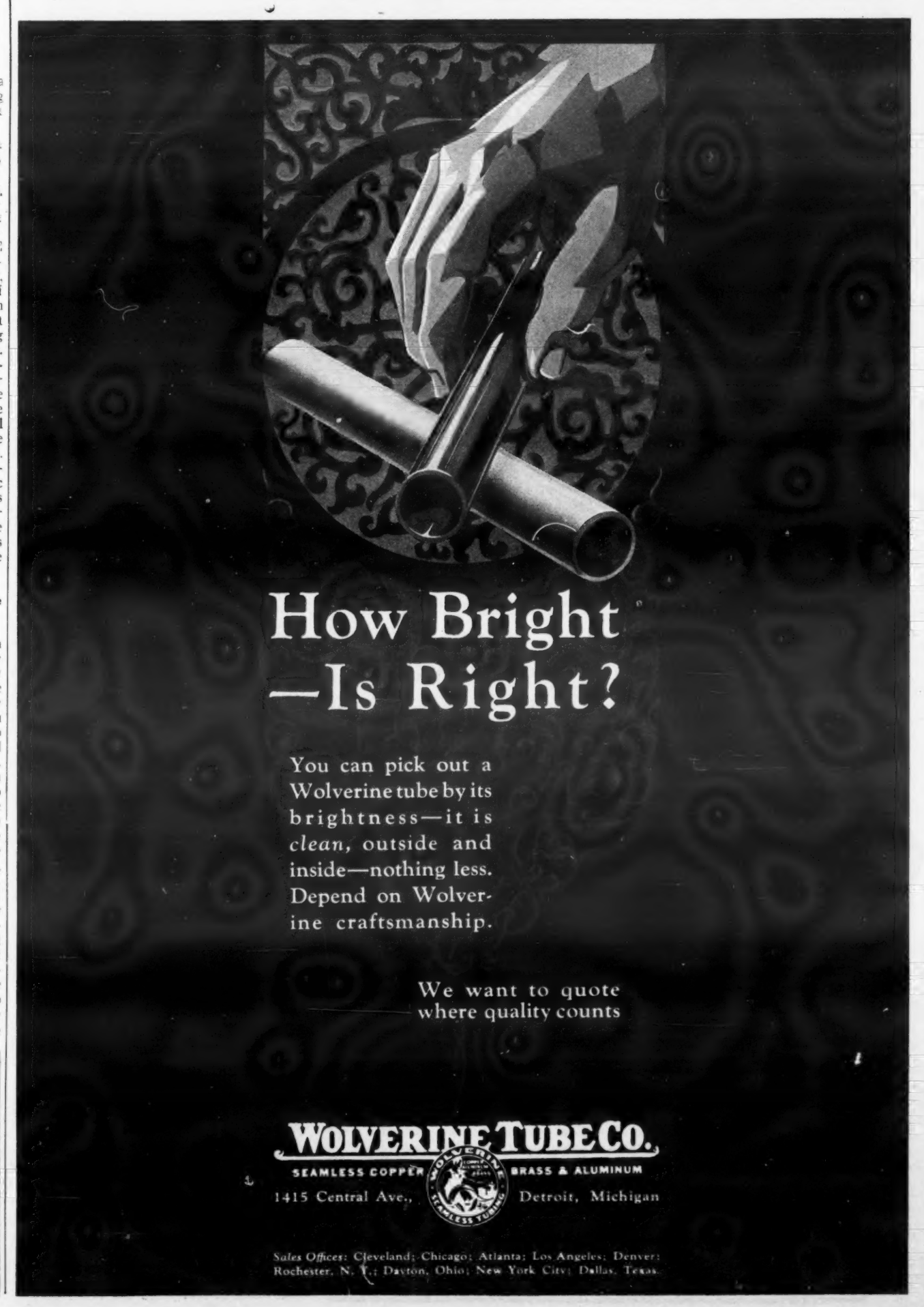
An electrical unit can only be as efficient as the box in which it is installed. Poor door contacts on wood or metal boxes mean that any unit will have to operate a greater number of hours to maintain an efficient refrigeration temperature. This means added operating cost.

Wirfs PATENTED **"AIRTITE" Gasket**

Keeps the cold air in and the warm air out and maintains the proper zone of refrigeration with fewer operating hours. Wide awake dealers have found that it usually clinches the sale. Most manufacturers supply boxes equipped with Wirfs; write us for their names and a sample.

E. J. WIRFS ORGANIZATION, Inc., 135 S. 17th St., St. Louis, Mo.

TRADE
EXTRA DRY ESOTOO
MARK
THE PUREST
SULPHUR DIOXIDE
Analysis Guaranteed
We have an agent, with our product in stock, near you
Wire us where we can serve you
VIRGINIA SMELTING CO., WEST NORFOLK, VA.
F. A. EUSTIS, *Secretary* 131 STATE ST., BOSTON 2 RECTOR ST., NEW YORK



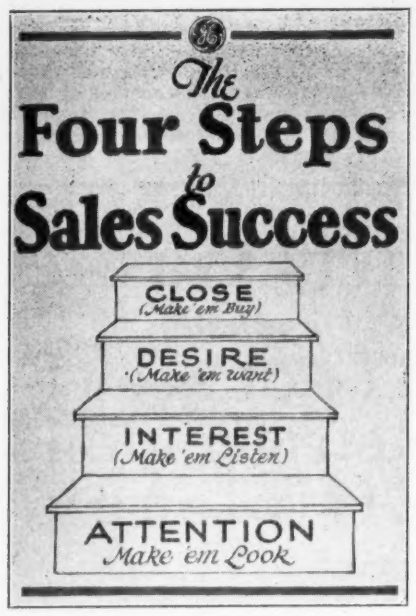
How Bright —Is Right?

You can pick out a Wolverine tube by its brightness—it is *clean,* outside and inside—nothing less. Depend on Wolverine craftsmanship.

We want to quote where quality counts

WOLVERINE TUBE CO.
SEAMLESS COPPER BRASS & ALUMINUM
1415 Central Ave., Detroit, Michigan

Sales Offices: Cleveland; Chicago; Atlanta; Los Angeles; Denver; Rochester, N. Y.; Dayton, Ohio; New York City; Dallas, Texas.



(*Continued from Page* 11, *Column* 5)

attracting attention. So give some thought to what you think is the best method of making a sale and work along that line. If your plan is good, you will be successful. *"Plan your work"* then *"Work your plan."*

To make this a little clearer, I have prepared a series of charts and the first is a stairway showing the road to successful selling.

You will notice here we have a stairway leading to *successful selling,* and the first step is *attention.* You've got to make the prospect look.

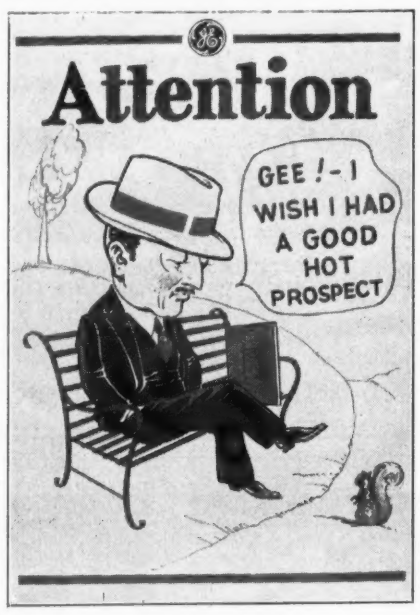
The second step after the customer is looking, is *interest*—you've got to get his *interest.* Make them listen; and after you've got them listening you've got to say things which will create *desire*—make them want.

After you've reached this third step it would seem simple to reach the fourth. but that is just where we are mistaken How many salesmen work and work and work from morning until night and never get an order. It is only because they have never taught themselves how to make the fourth step which is, *close.* You've got to make them buy. You've got to be forceful. You've got to lead the way. And to do that you've got to *"know"* that the prospect *needs* what you are selling.

Now let's see if we can't make this just a little clearer.

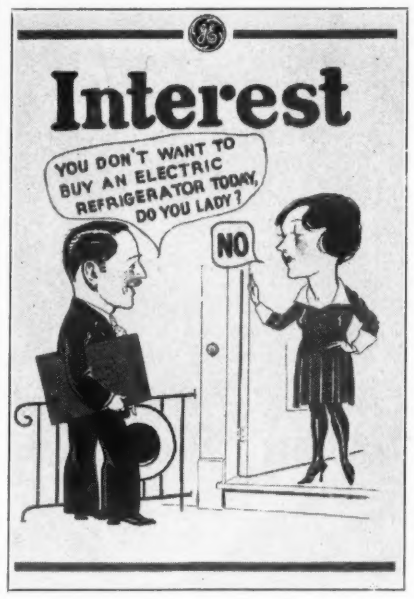
Now remember, the thing we are interested in first is *getting attention,* and this chart shows the way most salesmen attempt to do it. Here is a hard working salesman sitting on a bench in the park, probably bemoaning the fact that the world is against him, the rent is due, the baby needs new shoes, and he is wearing himself out wishing for a good live prospect to come along. No, he hasn't got a chance. This fellow will hang on to this job until the sales manager finally gets so sick looking at him that he will kick him out, and that will be another good salesman gone wrong. But let's see, maybe we can offer a little help here.

Mayer's Charts Show Four Steps in Selling



Yes, just as I thought. Here is an excellent suggestion, and after all is said and done, it is the best way to get *attention*—ringing the door bell and ringing it often. The more door bells you ring the more attention you will attract, and in this first step that's all we're interested in—attracting attention. Now the salesman rang the door bell, the lady came to the door, and he got attention. But remember, that is just the first step—"he ain't done nothin' yet." After he has the customer's attention, he's got to arouse her interest. He's got to make her interested in his story, and if he doesn't do this he may as well not have rung the bell at all. Let's see what happens.

Yes, here is the lady at the door and this high pressure salesman says, "You don't want to buy an electric refrigerator today, do you lady?" Of course, the lady being an agreeable soul and not wanting to hurt anyone's feelings answers "No, she didn't." This fellow is one of those guys that take orders from nobody. Now, when you get this far it is well to remember that it's a pretty hard proposition to try to sell a refrigerator through a doorway. You've got to get inside. I'd give anything in the world if I could give you a secret which you might whisper in the lady's ear and arouse her interest, but there are no such secrets that I know of. That is one of the requirements of salesmanship—you've got to know what to say. Every prospect is different and must be talked to differently, so I'll not waste your time or mine giving you a lot of theoretical solutions to the question of arousing interest. That's entirely up to you, but remember, you've got to get inside.



Here is a salesman that did get inside. I wish I knew what he was saying, but from the expression on the prospect's face it is easy to see that she is interested. Tell her about electricity; tell her what a wonderful thing it has proved to be for mankind. Tell her that electricity is probably more responsible for her hours of leisure than anything else. Tell her what electric lights have done to contribute to her ease and comfort. Tell her how the washing machine has removed the terrible blue Mondays of years ago. Yes and did it at the cost of 3c worth of electricity. Tell her about the vacuum cleaner and what it has done to make her home life happier. I cannot imagine a woman not being interested in those things. After you have her interested—listening to your story—it's a comparatively simple matter to begin on the third stop, creating *desire.*

Sees Color and Beauty in Appliances as "The New Spirit in Electric Service"

Veteran Publisher of Electrical Business Papers Reviews Progress in Development of Mechanical Devices

Extracts from an address by James H. McGraw over WRNY from the Broadcasting Studio of the New York Electrical Exposition, October 23, 1928, Grand Central Palace.

YEAR after year new appliances have been devised which contribute to the comforts of family life by lightening the burden of housework. One by one we have seen the inherited tasks of the housekeeper made easier. Tedious drudgery that has dogged the lives of women through all generations has before our eyes been banished from the household by the coming of some new electrical invention. Out of it has been born a degree of convenience, luxury and satisfaction that to those of older days would seem little short of magic. And it has all been good—good for health, good for happiness, good for the progress of our people and the advancement of our civilization. It is helping men and women find more time to live more fully and make more of their lives.

I am struck with the extent to which the artistry of design and color has been applied to make beautiful these ingenious devices of utilitarian purpose. In the beginning—and it was not so many years ago—these electrical appliances were interesting, they were appealing, they were practical, but they were crude and often they were ugly. The chief interest of the inventor and of the manufacturer in their early days was to make a percolator that would produce good coffee or a toaster that would provide good toast. If the vacuum cleaner would clean the rug and the clothes washer would actually cleanse the garments that were intrusted to it, it was enough. And this was something that no machine had ever done before. But tonight I am particularly surprised and delighted at the attractiveness of all these things.

And this is always the course of such an evolution. The first automobile was just a horseless carriage, a thing on wheels made awkward by the introduction of a cumbersome power plant and much machinery. The first few years were given over to improvements that would make the motor run, until refinements gradually brought mechanical perfection. Today popular choice in motor cars is guided more by taste in the design of bodies and the individual preference for model and for color than by anything else. And so it is with these fascinating devices for the home. All electric clothes washers today will wash clothes clean far better than can be done by hand. All electric cleaners will sweep better than a broom. All electric ranges are more luxurious and convenient than other stoves, and people make selections of the one that appeals most to them in its appearance, and its apparent promise of sturdiness, proficiency and satisfaction. And the smaller cooking appliances for the dining room are being compared here this evening by both men and women largely with an eye to their finish, their decoration, their design and their color. On this largely, they are making their selection.

I wonder if the public stops to consider and appreciate its debt to the manufacturer for this gift of added beauty that is coming to us now in such profusion. It would seem that the practical perfection of these many comforts for our use would have been all that we could well have taken from the electrical industry. But now they have been made beautiful as well, to grace our homes and add to our enjoyment. True, design and color have become the new influences that industry has seized upon to aid its selling. The delightful color and design seen here in this great exposition in the many separate exhibits, is but another reflection of this same spirit. But we are all the gainers by it nevertheless. And it is a fine tribute to the electrical manufacturer, it seems to me, that he has done so well and carried so far the artistic perfection of his product and so soon.

There's The Wrong Way and the Webb Way . . .
and the Slingabout will slice your delivery costs

WHEN you deliver your refrigerators in the Slingabout you save time, trouble and *expense.* Lessened labor charges. No scratching and marring of highly finished, beautiful surfaces. No mess to be cleaned up from the sales floor or the consumer's home when the refrigerator is unpacked.

Just slip it on—pull the buckle straps tight—and the job's finished. That's all there is to packing a refrigerator in a Slingabout.

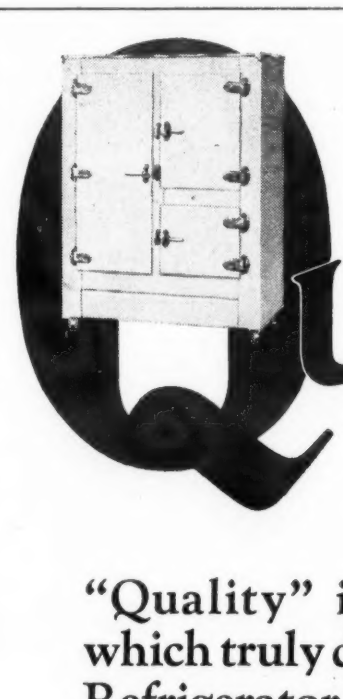
And safe! The soft, "scratchless" flannel lining of the Slingabout protects the finest finishes. Its thick padded jacket safeguards both refrigerators and homes against the carelessness of movers. Its strong harness will lift twice the weight it is intended for.

Write us for further information about this modern, efficient delivery help. Just tell us what line you handle, and we will quote you prices. The Charles J. Webb Company, 116 Chestnut Street, Philadelphia, Penna.

Webb Slingabout

South Texas Copeland Dealers Meet at San Antonio

Approximately 25 Copeland dealers from south Texas held a sales conference at the Blue Bonnet Hotel in San Antonio recently at which plans for promoting sales during the current season were discussed. Kirkwood and Wharton, local distributors for the Copeland products, had charge of the meeting, while the sales discussions were led by Ralph Jones, state representative, and D. B. Henry, sales engineer of Detroit. Similar meetings have been held recently in Spur and Waco under the supervision of Mr. Jones and Mr. Henry.



QUALITY

"Quality" is the only word which truly describes Challenge Refrigerator Cabinets.

Appearance, Durability, Insulation, Sanitation and Economy are all very carefully and deliberately built into every CHALLENGE Cabinet—and the great name of "Challenge" guarantees it.

No matter what method of refrigeration is used, for Perfect Food specify Challenge Cabinets with sheet corkboard insulation.

CHALLENGE REFRIGERATOR COMPANY
GRAND HAREN, MICHIGAN

CHALLENGE REFRIGERATORS

Illustrating How Sales Are Made—or Lost

But see, we were mistaken about that fellow. He was a Two-step salesman. He knew how to attract attention, and he knew how to arouse interest, but he didn't know how to create *desire*. Notice the bored expression on the prospect's face. I wonder what's wrong. Oh, here it is right here. This salesman is trying to make the lady want a refrigerator by telling her that the motor is filled with sulphuric acid, and she doesn't know what sulphuric acid is. Instead of creating desire, this bozo is working backwards. He has even lost the prospect's interest because he is talking to her about something which she doesn't understand. If he keeps up that line of chatter for long he won't even have her attention.

Oh, what a difference here. This fellow has the prospect smiling. That's always good. Can't you see what this salesman is talking about? He is telling the prospect of the many advantages to be had with electric refrigeration. "Good-bye" to all of the worries and inconveniences of the ice box and "hello" to money saved and better health through proper food preservation. He is telling her how proud she would be to have this newest electric servant in her home. Yes, it looks like the salesman is going to be victorious. He had to start at pushing the door bell. If he hadn't pushed the door bell, he wouldn't have attracted attention, and if he hadn't attracted attention he wouldn't have aroused interest; and if he hadn't aroused interest he would never in the world have created desire. The deal is all closed now but the signing of the order. Let's see what happens.

Well, the son-of-a-gun! Losing the deal after all that work. Gosh that was tough. See, he is saying, "Very well, Mrs. Smith, we'll see you next spring." I told you in the beginning this was where they all fell down, and I'll bet a dollar to a doughnut I can tell you where he lost out. He finally made his prospect see the NEED of the refrigerator and she probably said to him, "Well, it won't be long now until cold weather, but I certainly will buy one in the spring." Oh, if that salesman had only seen the *"need of electric refrigeration."* But he didn't. Probably in his mind the prospect would have been foolish to buy a refrigerator in the winter and, of course, feeling that way it happened. I didn't think he was a quitter but I guess he was. But he will come around all right in time because the fact that he made the three steps speaks volumes for him. Now let's see what this other fellow did.

Yes! Just as I thought. He put it over. He is getting the order signed and that is the only thing which good salesmen are interested in—getting orders signed. There are no alibis from this boy. He is a salesman. The big difference between him and the fellow we left in the preceeding chart is that this salesman expected the order and the other man didn't. When the lady said "Yes, I would like to have a refrigerator but we don't need one now because it won't be long till cold weather—she didn't surprise this fellow. *"He knew she was going to say that."* And he also knew that it was only because she didn't understand. So he let off a barrage of reasons why she needed a refrigerator in the winter time just as much as she needed it in the summer. He spoke so convincingly that he bowled over her imaginary objections. He told her that it was just as warm in the kitchen in the winter as it was in the summer, and when she said "I keep my food on the back porch in the winter," he said, "Yes, Mrs. Smith, but think of the inconveniences. Think how many days during the winter time you have a cold which may have been caught by running from your warm kitchen to the cold back porch; and also think of how many times when your husband came down for breakfast in the morning, probably in a bad humor, you served him with cream and butter which were frozen hard." Yes sir, this salesman knew what he was talking about. He *knew the need of that which he was selling.*

When the lady said, "Well, I guess you are right, but the refrigerator costs too much." This salesman *"knew she was going to say that"* but after he finished telling her how inexpensive the refrigerator really was, she said "Well, it isn't so expensive—all things considered." And then she said, "but it is simply out of the question, we can't afford to buy it now." Can't you see this prospect was walking right into the salesman's trap. *"He knew she was going to say that,"* so he proceeded to tell her about the convenient budget plan. How she could purchase a refrigerator over a period of time and with such convenience that she would hardly miss the money. Finally the lady said, "Why, I had no idea we could buy a refrigerator on such convenient terms—but, of course, I will have to talk to my husband about it." Even this did not stump this salesman because *"He knew she was going to say that."* (How foolish to think the wife would purchase anything costing as much as an electric refrigerator without discussing it first with her husband.) He said, "Why Mrs. Smith, that's fine. You should talk to your husband about it." So he made an engagement to return that evening to finish the battle which was half won before he appeared. When the husband came home that evening, the wife played the part of the salesman and finished the first three steps of the sale which are *Attention, Interest* and *Desire* so that all the salesman had to do was close the deal. And he had the wife's assistance on that.

Proof that the prospect didn't know what she was talking about when she told the salesman earlier in the day that she didn't want the refrigerator is shown by her statement now, which is, "Can you deliver the refrigerator tomorrow?"

Winter's Variable Temperature Makes Natural Refrigeration Undependable

Food Stocks for Holiday Affairs Need the Protection of the Electric Refrigerator

"MOST of the arguments for electric refrigeration in winter are with the person who uses the outside icer," says Miss Doe (as we shall call a woman who comes in contact daily with the prospect for electric refrigeration, but prefers not to be quoted). The reason for refrigeration in winter are unlimited, says this woman. The principle argument for the user of the window box refrigerator is that the moderate days of winter that are looked forward to, and always come unexpectedly, are the dangerous days for the food in window boxes.

Lettuce and vegetables are ruined by freezing and are only a little less hurt by being kept too warm. Meat is not so palatable if it is allowed to freeze and thaw. Unless temperature is exceedingly carefully watched, food kept in the window box can not be served with assurance that it is not in the least tainted.

"Food can be kept only in small quantity in the window box and this necessitates frequent trips to the market, and buying of meat in small quantity which, in a roast, never has the flavor of the larger piece of meat," Miss Doe points out. She estimated that by buying in quantity and saving of food that would otherwise spoil, the running expense of the electric machine is more than covered.

"There is about three times as much entertaining at home in the winter time as in the summer and the electric refrigerator is the one thing that makes entertaining a joy both by making it possible to have everything prepared before and to offer the guest something unusual," says Miss Doe. The holiday seasons of Thanksgiving, Christmas and New Years necessitate the stocking of much food in the average home. She points out that frozen desserts are just as desirable in winter as in summer and much more difficult to send out for or have delivered at the right time.

"An ice box on the back porch is an absolute danger in the cold winter weather, for the kitchen is always warm and going onto the cold porch several times during the preparation of a meal is no doubt the cause of a great deal of illness during the winter," Miss Doe says.

Miss Doe thinks that winter is the time to sell electric refrigerators from an economical standpoint. She says November is the most logical month—then taxes are out of the way for a while, and coal or the oil burner are taken care of for the winter.

Billings, Mont., Dealer to Hold Essay Contest Through Newspaper

Value of electric refrigeration in the home will be the subject of an essay contest held by F. B. Connelly Co., Billings, Mont., distributor of General Electric refrigerators. The contest will be conducted through the *Billings Times*. One essay will be run each week for ten weeks.

A prize of a refrigerator—to be delivered just in time for Christmas—will be given the subscriber who submits the most comprehensive essay bringing out at least ten outstanding advantages of electric refrigeration.

WANTED

A company manufacturing kitchen equipment for fifty years, with highest mercantile rating, has some good territory open on a major appliance, salable all the year 'round.

Does not compete with but fits in with electrical refrigeration.

Only distributors of good financial standing with a dealer clientele considered. Address Box 114.

G-E CAPACITOR-MOTORS

Type RKS

The Refrigerator Motor of To-morrow—*Available To-day*

This new capacitor-motor was developed by General Electric primarily for use in its refrigerators. It has been called by competent authorities "the refrigerator motor of to-morrow". It has all the desirable characteristics of a polyphase, squirrel-cage motor. ¶It is a single-phase motor unusually quiet, compact, and substantial; with no brushes, no commutator, no collectors, with remarkable starting and pull-up torque; with very high efficiency; with very high power-factor; a motor that does not interfere with radio reception, a motor that operates reliably for long periods without attention. ¶These superior features are being demonstrated every day by the thousands now in use. Be sure to get complete details from your nearest G-E office.

210-77B

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

Selling the Time-Payment Plan to the Customer*

"NOW get this," said the Knowing One. "You can't soak me with interest that figures two or three times the legal rate. Why the American public lets itself be milked by these finance company profiteers is one of fatuous human nature's greatest mysteries. But I'm not the every-day type of sucker. I like your refrigerator but not enough to pay these pirates twice what it's worth to have the sale financed. Six per cent is my absolute limit, young man. If you'll make me that rate the sale is yours. If not, I'm off. Six per cent—take it or leave it."

How do your salesmen answer Hard Boiled Sophistication when it jumps down your throat in those terms—as it does in about so many per cent of all time sale negotiations?

How do you—the dealer or sales manager—answer it yourself?

You can't duck or clinch or dodge or twist with that type of rampant dissenter. You've got to oppose force with force or you're utterly sunk with one broadside. You can't soothe down Direct Action of this sort. You can only knock it down.

As a suggestion—

"Mr. Brasstax, you've raised an honest issue with the bluntness of a sincere man. I certainly like the way you put it up to us and I'm glad you have come right out with it. I'm going to answer you just as directly—but you've got to come over to my desk, take out your penicl and put down the figures I give you. You've got to work out your own answer and draw your own conclusions. I'll give you the facts and you do the rest. I will put my time against yours to give you the right picture. But the subject is too big and too important to permit an offhand reply.

"If you are as sincerely interested as you seem in the make-up of the finance charge, you'll be glad to have a satisfying explanation. I can give it to you—but not in half a dozen words."

For, of course, you must pry his mind open if you're going to let in the light, and unless you make him realize at once that he has started something vital and something entirely too big for merely casual discussion you give him no incentive for approaching it without the blind prejudice which prompts his present attitude.

Seated at your desk you open up again—

"First of all we're going to quash that word 'interest' as applied to installment selling.

"Banks loan money and charge interest.

"Finance companies render a service of which the money advanced is only a minor part. And, incidentally, most of what money they do advance is borrowed at bank rates. Their charge is for their complete service, advance of money included, and in proportion to the cost of that service the charge is almost destructively low.

"The hard cash paid out by the finance company to provide for the handling of your order is far more than the legal interest on the money advanced. The company's average net profit is from five to seven dollars per transaction. Not one of the big and strong companies which alone have survived the hazards of the business over a period of years has averaged as much as 2 per cent net profit on its capital as a successful factory or distributor. It is utterly unfair to criticize their rates without considering their costs or without knowing something about their earnings.

"The finance companies do not attempt to compete with the banks or to handle the paper of buyers who can—and prefer to—borrow of their banks. They themselves are borrowers of the banks and if you have bank borrowing facilities that you feel free to use in the purchase of a refrigerator I advise you to use them, for the cost will, of course, be less.

"Finance cmopanies exist for the benefit of those who prefer to use their banking facilities for other purposes or who have not yet established their credit at bank.

"Finance companies exist for the beneon merchandise collateral such as a refrigerator, which the banks do not ordinarily accept as security for personal loans. Also upon the moral risk represented by the buyer of moderate means whose resources are not sufficient to earn him a line of bank credit.

"Finance companies are not banks in any sense. They supplement the banks by entering a field of credit wherein the banks are not equipped to operate but one in which such functions as theirs are absolutely indispensable if this country's consuming capacity is to keep anywhere near abreast of its productivity.

"Money advanced is, as I say, only a fractional part of the cost of the service they render.

"Their charges also include the cost of fire and theft insurance.

"The cost of a thorough credit investigation.

"The cost of collecting an average of ten installments a year from each buyer. Even if he pays promptly he must be notified by mail of each maturity and the machinery necessary to keep the records straight on the tens of thousands of payments handled every month by even a fair-sized finance company is intricate and costly whether most payments are promptly made—as they usually are—or otherwise.

"It must provide for the cost of legal action such as repossession cases occasionally entail.

"It must include the costs of management and provide for an adequate reserve against expected loss.

"Last, but not least, it must set up a margin for profit.

"Here's a picture of your installment dollar, Mr. Brasstax, showing the proportions of it that go to cover each of the main subdivisions of expense I have been listing. I think when you study it carefully you will cease to talk of profiteers and pirates and agree with me—and with the history of installment merchandising—that only sound methods, the closest paring of expenses, and unremitting supervision can win permanent success in a field that presents so many problems and such a variety of hazards. I think you will realize that the rate you pay to have your refrigerator financed is low in proportion to the cost of the service and will feel, as I do, a very high respect for people who can render that service year after year to the public's satisfaction and at a living profit to themselves."

All of which is sober truth and its conclusions fully justified.

The average salesman backs away from the prospect who challenges the finance charge because he himself does not understand it and suspects an unseemly profit in it somewhere. He needs education as much as the buyer—and should have it. The finance charge can profitably be dissected in this fashion at about one out of every half dozen sales meetings to be sure that every man on the squad is better perfected in his explanation of it.

Installment selling is either an indispensable factor in American prosperity or it is not. So far as the finance companies are concerned the answer can be safely left to the testimony of the automotive industry. If so it can only be provided for at rates that cover the cost and leave enough margin to attract capital to the business.

There is nothing mysterious about the make-up of these charges—nothing in an honest question on the subject that any salesman need shrink to face. The buyer who can get equivalent accommodation through his bank or elsewhere at smaller cost is free to do so. The finance companies have no wish to force their facilities down anybody's throat. They have no need to. There will always be a legitimate demand for such services as they alone can render.

Face up squarely, therefore, to the buyer who questions the finance charge. Welcome the inquiry and give him the facts. If he is a reasonable man he will be wholly satisfied—for those facts are unanswerable. If not—well, perhaps you know a formula that will sell a man who doesn't use his mind. If so, by all means use it.

*From the Sales and Service Bulletin of the F. B. Connelly, Billings, Mont.

FOREIGN SHIPMENTS OF ELECTRIC REFRIGERATORS

September Exports Reported by Bureau of Foreign and Domestic Commerce

Country of Destination	Units up to 1-Ton Capacity Number	Value
Denmark	7	$ 1,754
Finland	30	3,170
France	38	7,090
Germany	14	1,860
Hungary	5	1,073
Netherlands	12	2,342
Norway	5	718
Spain	46	10,046
Sweden	44	6,311
United Kingdom	15	2,402
Canada	1,158	178,981
Costa Rica	4	1,693
Honduras	1	281
Nicaragua	1	190
Panama	13	3,550
Salvador	4	1,296
Mexico	11	2,258
Bermudas	3	444
Other British W. Indies	8	2,115
Cuba	144	26,036
Dominican Republic	44	8,942
Argentina	191	21,311
Brazil	98	22,154
Chile	14	2,747
Colombia	134	28,770
Peru	3	1,038
Uruguay	20	4,034
Venezuela	4	720
British India	43	8,437
British Malaya	9	2,282
Ceylon	10	1,923
China	9	1,257
Java and Madura	4	728
Hong Kong	3	1,167
Japan	16	5,255
Philippine Islands	17	3,224
Siam	1	813
Australia	339	74,155
French Oceania	4	520
New Zealand	14	2,899
British East Africa	1	271
Union of South Africa	88	18,141
Egypt	7	1,596
Algeria and Tunisia	3	585
Mozambique	6	934
Total	2,645	$467,513

C. H. Stull to Have G. E. Line in Grand Rapids

C. H. Stull, formerly of Cleveland, Ohio, will take over the sale of General Electric refrigerators in Grand Rapids, Mich., and surrounding territory. He will succeed John W. Bailey, whose health has made necessary his departure for California.

McCord's twenty-six years experience in the designing and building of radiators for leading car and truck manufacturers has enabled their engineers to develop types of condensers that combine to a greater degree than ever before maximum efficiency in a minimum of space.
Type "A" Single Row Continuous Tube McCORD CONDENSER
McCORD "Spiral Fin" continuous tube condensers are made by a patented process that insures a continuous metal to metal contact between the fin and the tube. Only seamless, bright, annealed tubing is used, and the fin is corrugated, giving greater radiative efficiency.
Type "C" Spiral Fin Coil McCORD CONDENSER With Seamless Headers
McCord condensers are made in many sizes and designs to meet the requirements of a wide variety of electric refrigerators. Efficient radiation and compactness are combined in the unit pictured above.
Type "A" Triple Row Continuous Tube McCORD CONDENSER
McCord Radiator & Mfg. Co.
• Detroit •
McCORD BUILT

The-Cooke-Seal-Ring

A Mechanical Device Sealing Any Rotating Shaft in the Stuffing Box and Revolving *with* it.

Applications

Ammonia, Sulphur Dioxide, Carbon Dioxide, Gases, Air, Water, Brine, Gasoline, Oils, Liquids, Pressure or Vacuum.

Eliminates

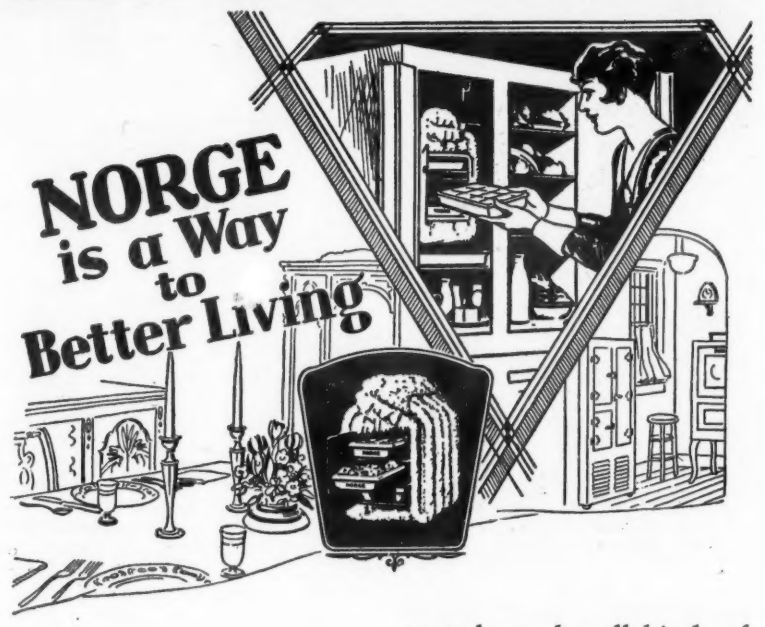
Packing, Leaks, Expense, Trouble, Scored Shafts, Hot Boxes, Shut Downs, Dirt, Motor Overload, Oil Waste, 90% Friction.

Write to

COOKE-SEAL-RING

20 North Green St. Dept. H CHICAGO, ILL.

INSTALL AND FORGET IT



REFRIGERATION, any kind of refrigeration, is a way to better living, but Norge automatic electric refrigeration brings supreme satisfaction.

The reason of this supremacy is Norge's different design . . . its *exclusive* self-compensating rotary construction with fewer working parts, thereby insuring velvety and almost noiseless operation. One result of this construction is long, reliable, uninterrupted life.

On inspection, you are first of all impressed by its quietness, and a scrutiny of Norge records, under all kinds of working conditions, reveals an economy that is truly amazing.

Performance proves ample reserve of capacity to enable Norge to supply ice cubes in abundance, and positively and constantly hold food-protecting temperatures, to guard the wholesomeness of your food, and the health of your family.

Better living at less cost . . . better homes through better living conditions! This is the mission of Norge.

See Norge and investigate our purchase plan. *It enables every householder to install a Norge now.*

NORGE CORPORATION—DETROIT

A 2-million dollar organization which has won and held international fame in the manufacture of precision machinery for the last 18 years builds and stands back of Norge

NORGE

ECONOMICAL REFRIGERATION

Excellent territory is still open for distributors who can measure up to Norge requirements. Write for full particulars, or better still, call and see us at the factory. Norge franchise is a valuable franchise.

QUIET—AND STAYS QUIET

KULAIR COMMERCIAL CONDENSING UNITS

For Use With Any Practical Cooling Unit

Low, Medium or High Speed Multiple or Single Unit Hookup

Sulphur Dioxide or Methyl Chloride

A sensible policy product and price
Awaits your inquiry
Write for it

KULAIR DIVISION
FRANKLIN AIR COMPRESSOR CORPORATION
NORRISTOWN, PA.

No. 3000 Air Cooled 9342 BTU per hr.
Smaller Sizes to ⅛ Horse Power.

THOMPSON DISCUSSES INTERMEDIATE FIELD

(*Continued from Page* 1, *Column* 5)

and cold. storage plants have also been classified as commercial. So, let us call it the intermediate field—that which is between the household applications and the cold storage plant.

Now, as the devices which the majority of us manufacture are automatic in control and simplicity is an element much sought for, it is natural that the field the most of us are serving falls in the class below two thousand pounds refrigeration per day. Here we find probably first in importance, the *butcher* shop. The butcher's need for refrigeration is paramount as his convenience and utility to his customers is best served by the small automatic unit. Present day retail sales methods call for the attractive display of meats to stimulate trade. This, in turn, means the display case, which is generally worked in combination with a cooler or storage box. Both of these are adequately served by small-unit equipments, sometimes with individual installations and sometimes from the same condensing unit.

With present day truck transportation giving quick access from the packing house and distributing center to the store, the tendency seems to be toward the freezer type of case, which is a combination of display case and storage cabinet. Decided economies are possible by the utilization of these freezer cases. Their use eliminates the necessity for a large and expensive cooler except in locations where daily deliveries are not possible. A lesser investment is necessary and a lesser operating expense. As an example of our belief in this type of equipment coming into prominence, my company is not only prepared to serve existing equipments but has under development plans for more modern freezer cases, designed especially for compactness and the utilization of mechanical refrigeration.

Dehydration Largely Dependent on Exposed Cooling Areas

The matter of dehydration of meats forms an interesting subject, both from a technical and selling standpoint. The technical side is a matter of surfaces and heat transfers and given space in which to place the cooling unit. Large brine tank surface on which a temperature of, let us say, twenty-five to thirty degrees Fahrenheit is carried, means a lesser temperature difference between the cold member and the air train in the box. Yet they precipitate less frost, dehydrating the meat less rapidly and present what can be classified as an over-capacity installation which is, indeed, advantageous.

Here, the selling phase steps in. Quite naturally, larger surfaces need more copper and more brine. Naturally, a higher price must be obtained for these equipments. Be a man a good enough salesman to conclusively prove to the prospect that the additional investment in this type of an equipment will be many times returned to him through lessening of meat shrinkage, then the way is clear. Competition does not always permit this. Cold is cold and an ice machine is an ice machine to a great many butchers. The technical arguments are not easy to get over to the lay mind. These same problems occur in selling quality everywhere and high-temperature brine installations today are, by far, in the minority.

Next in the matter of desirability from a standpoint of dehydration is the direct type of evaporator, which automatically defrosts every cycle. The surfaces here are kept at a lesser temperature (perhaps from ten to fifteen degrees). The areas of surface presented, in proportion to the temperature differences, being properly balanced and the off period of the machine being sufficiently long the frost will be melted off each cycle and some of it will return to the meat. How much, I am not prepared to say. But, in all events, the cost of producing such an apparatus is less than the higher-temperature brine tank and such equipments find a more ready market.

The evaporators which accumulate further frost deposits each operating cycle present the least desirable method, from a standpoint of dehydration. I should like to predict that there will be, within the next two or three years, developments along the lines of lessening the dehydration factor and also that some salesman is going to be clever enough to work out a selling talk, easily comprehended by the lay mind, that will bring the conviction that the dollars spent in additional evaporator surface are dollars well invested.

The *grocer* has a diversified refrigeration problem and his requirements are not as exacting as those of the butcher. Higher and more fluctuating temperatures will serve his demands. Space in his store, however, oftentimes is at a premium and recent developments in small unit refrigeration will make it possible for him to purchase cabinets of lesser size, yet with as great a cubical content available for food. This economy is accomplished with the newer methods of evaporation and the ever-increasing knowledge of the means of expediting circulation by proper baffling.

The refrigeration problem of the *Restaurant* is very similar to that of the large household. Extreme temperature differences are often encountered here, however. The proprietor generally requires that his box be kept well around an average of 40 degrees and, in cramped, hot kitchens, there is oftentimes a 60 to 80 degree temperature difference encountered and I know, from experience, that the optimistic salesman who brings in a survey in which he says the maximum room temperature will be about 90 degrees is only leading the engineering department into trouble. Dehydration is not much of a factor in restaurant practice and large, direct expansion evaporator surfaces under heavy load are effectively utilized.

Refrigeration service for *Florists* is an easy matter. Temperature requirements are not severe. There is perpetually in the cabinet and in the air train large quantities of water and water vapor. Transfers are easy but the field is limited in size.

Industrial and Office Water Cooling Offers Big Field

A great, untouched market lies in the field of industrial and office water cooling, particularly the former. Although the several companies have made successful installations, capable of delivering thousands of gallons of properly cooled water per hour, yet the saturation of these equipments is at a very low figure. As I see it, here are two things responsible for this condition. The first is that the sales department hasn't yet gotten around to it, partly because it involves the training of men in selling a "specialized specialty." The second reason is that the story is not an easy one to get over. We tell the owner of a large foundry, as an example, that the health, happiness, effectiveness and productivity of his employees will be bettered if there is available to each one of them a quantity of pure water, cooled just at the right temperature. This same foundry owner is daily solicited by other gentlemen with stories couched in the same language but which may involve the purchase of pretty pictures, in the form of posters, perfumed soap for washrooms, shower baths, or motion picture entertainment and he can't always differentiate between the non-essential and the essential. Of course, I think the cool, pure water is the essential. The boy with the perfumed soap is quite confident that his product can do much more to improve the frame of mind of this particular group of moulders and core-makers.

The time is coming when we will devise means of telling our story in a more convincing way. It is encouraging to note that the Charles E. Hires Co., whose headquarters are here and who are interested in selling bottled water, have classified their division, from which they sell the water and electric refrigeration service, as a *"public utility."* This brings up a new way of thinking. Pure, properly cooled water *is* a public utility, because it contributes materially to the health, happiness, convenience and well-being of those that are sufficiently fortunate to enjoy it.

I could go on about water coolers, liquid coolers, automatic and manual beverage dispensing devices, cooling yeast, cooling chemicals, cooling photographers' solutions, and a thousand and one other applications, indefinitely. I mention them merely to illustrate the size of the market and to say that all of we sales fellows have been negligent in not embracing this field and bringing to light the dormant demand as we have in the case of the household.

Extension of Power Lines Opens Market for Dairy Coolers

A dairy cooler is actually a liquid cooling device but deserves special mention. Rural district electric line extension is going on at a rapid rate. Individual farm lighting outfits are today sold at reasonable prices and with large generating capacities. Small herds of cows still seem to predominate. Here is the ideal set-up because the farmer's problem in getting his milk to the market or even keeping it at proper temperature on a roadside platform has always been a severe one. No amount of refrigeration in a *dairy* will decrease the bacterial count in milk, nor will it make sour milk fresh. Therefore, refrigeration must occur at the source and the heat extracted quickly after the milk has left the animal. Here is a great untouched market which is only gradually, however, being solicited. To properly embrace this market, it is necessary that installation and service facilities be available within a reasonable distance of each milk cooler. The saturation of dealers and distributors is not yet sufficient to cover all areas so intensively and, although the field is there, I believe that sales progress in this line will not be as rapid as we would like.

Once in a while, every one of us gets the opportunity to sit back and think and, for my part, I often wonder about the future of electric refrigeration, both domestic and intermediate. I am convinced that we can take it for granted that the market awaits and is ready to absorb these devices in ever-increasing quantities each year, *if* we keep up specialized selling effort and, as well, receive the benefit of word of mouth advertising from satisfied customers. However, there is another element which presents a severe problem to those of us who are not only engaged in doing a certain thing but have the obligation to do that certain thing at a profit.

The manufacture of these devices brings into use expensive materials. Electric motors, as an example, that contain copper, high-cost steel and careful workmanship, because they must be quiet; must be positive in their operation. Copper tubing and sheets also and careful machine work on the compressors, miscellaneous parts and controls.

Usually, in specialty marketing practice, the cost of producing an article, as an example, a washing machine or vacuum cleaner, is but a fraction of the price received from the public. This is because specialty selling and advertising costs are high, yet the situation is not uneconomic because the value and utility of the appliance to the customer is far in excess of the price he is called upon to pay.

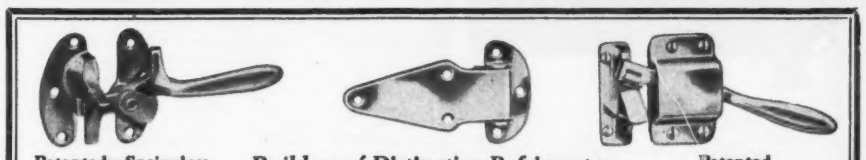
Rightly manufactured, small unit refrigerating devices cost more than other specialties to produce, yet competition and the retail price that the public is alleged to be willing to pay sets the number of dollars we may receive at the outside for the product and for our effort in popularizing and selling it. I will venture to say that every manufacturer, no matter what his production is, is aware that this industry, to a certain extent, is out of balance. There are *two* possible solutions. *One* is to raise the price to the public. This would mean co-ordinate effort among all manufacturers. I doubt that this can be done either actually or legally. The alternative is to sell more machines and to thereby decrease the cost of selling.

Now in the ultimate, the several producers in the small unit field are not so much in competition with one another as they are in competition for the public's dollar. Electric refrigeration does not as much fulfill a long felt *demand* as it does a *need* of long standing. It is, granted, a contribution to better living and a logical step forward in the progress of mankind. Yet it is an extremely difficult thing to spectacularize and the spectacular object most quickly gains public attention and acceptance. To illustrate this point, let us take the case of a newly married couple, possessed of a limited amount of cash but not possessed of either

(*Concluded on Page* 17)

HOUSEHOLD QUALITY SERVICE COMMERCIAL
HERRICK
THE ARISTOCRAT OF REFRIGERATORS
for
ELECTRIC REFRIGERATION
HERRICK REFRIGERATOR CO.,
1019 Cedar St. Waterloo, Iowa

Manufacturers of
ICE CREAM CABINETS
We will build Ice Cream Cabinets to your design
ready for installation of compressors
REPLACEMENT PARTS FURNISHED
Motors Metal Mfg. Co. 5936 Milford Street DETROIT :: MICH.


Patented—Springless Automatic
Builders of Distinctive Refrigerator Hardware *for*
Patented TRIPLOCK
Electric Refrigeration
WINTERS & CRAMPTON MFG. CO.
GRAND RAPIDS, MICH.

THE MOST EFFECTIVE COMMERCIAL INSULANT KNOWN

THE unusually high insulating value of Dry-Zero has been proven so many times . . . under so many different conditions . . . by so many important and impartial authorities, such as the U. S. Bureau of Standards and the Armour Institute, that its superiority is established beyond question. It is a generally accepted fact that Dry-Zero is the most efficient commercial heat insulant known.

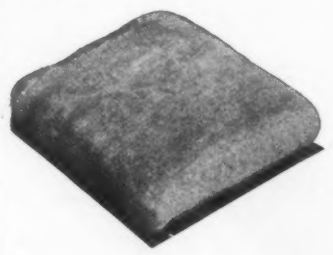
In every field where correct insulation is vital, Dry-Zero has established a new high point in efficiency. It offers from 20% to 35% greater heat resistance than any insulant in common use. It is by far the lightest insulant known. *Dry-Zero weighs but 1.1 lb. to 1.7 lb. per cubic foot.* It is permanent, sanitary and vermin-proof.

These are the facts of Dry-Zero. Translate them into the language of your own problem. The greater efficiency of Dry-Zero means a more perfect product . . . and an enthusiastic acceptance by the consumer. The lightness in weight means a saving in transportation costs, in some cases as much as a dollar a unit.

Multiply these advantages by the number of units in your schedule for the year and you will realize at once the importance of a serious investigation of this remarkable insulant.

Compare Dry-Zero under your own conditions with any other commercial heat insulant in common use. We will gladly send you a sample or have a member of our engineering staff confer with you and assist you. A post card is all that is needed.

DRY-ZERO CORPORATION
CHICAGO, ILL.

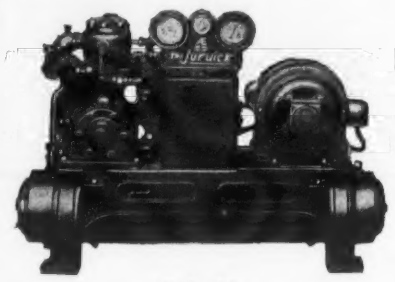

The Dry-Zero Pliable Slab is easily installed and hermetically sealed in a single operation by pressure alone, due to the specially designed and patented sealing flange, found only in Dry-Zero. There is no waste or loss of time or labor. Dry-Zero will not swell, crack or settle.

DRY·ZERO

Directory of Manufacturers with Specifications of Small and Intermediate Sizes of Refrigeration Machines

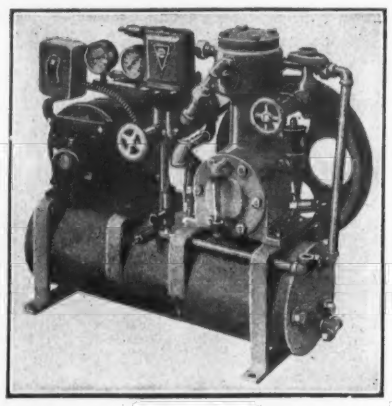
AIRAPLEX FRIGIDARIUM
Minneapolis, Minn.
L. H. England, pres.; A. F. England, vice-pres.; F. F. Zander, secy. and treas.
Refrigerant—air. Utilizes gas or liquid fuel as source of energy.
Trade name—AIRAPLEX.

AMERICAN ENGINEERING CO.
Kensington Sta., Philadelphia, Pa.
Maxwell Alpern, pres.; W. V. Sauter, vice-pres.; C. L. Cushmore, treas.; J. G. Worker, gen. sales mgr.; H. I. Lewis, sales mgr., refrigeration div.; J. M. Combs, adv. mgr.; E. W. Scharminghausen, pur. agt.
Trade name—JURUICK.



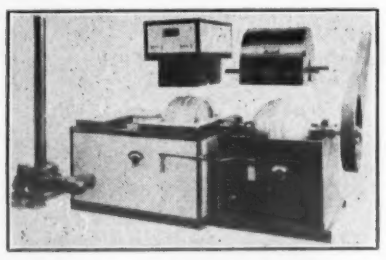
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—metallic packing. *Refrigerant*—ammonia.
No. of standard sizes—11. *Motor*—¼ to 50 hp.
Condenser—multipass, shell and tube.
Method of cooling—water.
Water valve—pressure *Control*—temperature.
Capacities—(ice melting) ¼ to 4 tons in complete automatic units. Ammonia compressors up to 30 tons capacity.
Low Side
Method of cooling—direct or indirect.

ARMSTRONG MACHINERY CO., INC.
E. 3201-19 Riverside, Spokane, Wash.
Trade name—ARMSTRONG.



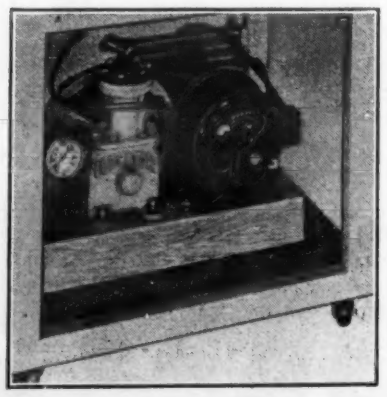
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—ring. *Make*—Armstrong.
Refrigerant—ammonia. *Motor*—½ to 50 hp.
Condenser—single pipe with air—double pipe with water.
Method of cooling—water.
Control—pressure and temperature.
Capacities—(ice melting) 20 lbs. to 20 tons.
Low Side
Method of cooling—direct and indirect.

AUDIFFREN REFRIGERATING MACHINE COMPANY
285 Madison Ave., New York, N. Y.
E. T. Hargrove, pres.; K. D. Perkins, vice-pres.; A. D. Karr, chief engr.
Trade name—AUDIFFREN.



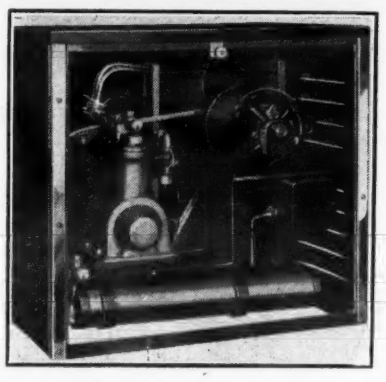
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ hp. *Condenser*—fin tube.
Method of cooling—air *Control*—temperature.
Low Side
Method of cooling—direct.
Ice cubes—2 to 56.

AUTOLECTRIC ICERATOR CORP.
16 Court St., Brooklyn, N. Y.
Trade name—ICERATOR.



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ hp. *Condenser*—fin tube.
Method of cooling—air *Control*—temperature.
Low Side
Method of cooling—direct.
Ice cubes—2 to 56.

AUTOMATIC FREEZER CORP.
1716 Ford Bldg., Detroit, Mich.
Milton T. Watson, pres.; Frank R. Woods, vice-pres.; A. J. Prentice, secy.treas.; Lawrence C. Smith, prod. mgr.
Trade name—CAREFREE.

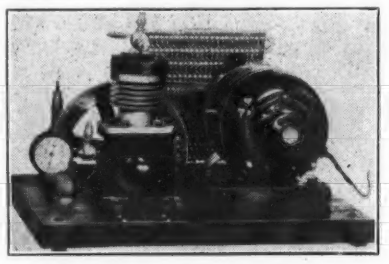


High Side
Compressor—reciprocating. *Drive*—belt.
Seal—bellows. *Make*—Leachwood.
Refrigerant—sulphur dioxide.
Motor—⅛ to ⅓ hp. *Make*—Century.
Condenser—radiator. *Method of cooling*—air.
Control—temperature. *Make*—Penn.
Capacities—(ice melting) 150 lbs. to 350 lbs.
Low Side
Flooded system method of cooling—indirect.
Float valve—low side. *Make*—own.

AUTOMATIC REFRIGERATING CO., INC.
Hartford, Conn.
Note: The Odin household refrigerator formerly manufactured by this company was sold to the Devon Mfg. Co., Worcester, Mass. The Automatic Refrigerating Co. makes complete installations of Frick ammonia compression systems and continues to manufacture automatic regulators for use with ammonia.

BAKER ICE MACHINE CO., INC.
Omaha, Nebr.
High Side
Compressor—reciprocating.
Drive—direct, chain and belt.
Seal—metallic, semi-metallic and soft.
Refrigerant—ammonia and methyl chloride.
Motor—½ to 200 hp. *Method of cooling*—water.
Control—pressure and temperature.
Capacities—(ice melting) 500 lbs. to 100 tons.
Low Side
Method of cooling—direct and indirect.
Trade name—BAKER.

BERG MANUFACTURING CO.
Gardner, Mass.
Trade name—ICEBERG.



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—bellows. *Refrigerant*—methyl chloride.
Motor—⅛ to ¼ hp.
Condenser—radiator. *Method of cooling*—air.
Control—temperature. *Capacities*—5 to 15 cu. ft.
Low Side
Method of cooling—indirect.
Ice cubes—49 to 120.

BRUNSWICK-KROESCHELL CO.
New Brunswick, N. J.
James W. Johnson, pres.; Sydney B. Carpender, vice-pres. and gen. mgr.; Arnold H. Goelz, vice-pres. and chief engr.; Robert A. Kroeschell, secy. and sales mgr.; William Carpender, treas.; H. Harrison, adv. mgr.; Walter Jones, prod. mgr.
Trade name—BRUNSWICK.
Compressor—reciprocating. *Drive*—direct and belt.
Refrigerant—ammonia and carbon dioxide.

BRYANT ELECTRIC REFRIGERATOR CORPORATION
New Milford, Pa.
F. LeGrand Bryant, pres.
Trade name—BRYANT.
Compressor—reciprocating.
Refrigerant—sulphur dioxide.
No. of standard sizes—4. *Motor*—¼ hp.
Capacities—(ice melting) 50 to 110 lbs.
Ice cubes—56 to 144; 4.1 to 11.2 lbs.
Control—thermostat.

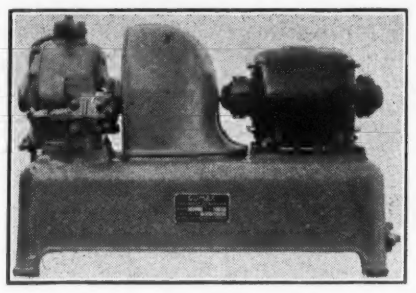
CALVERT ELECTRIC REFRIGERATION CO.
Division of Poole Engineering & Machine Co.
Woodberry, Baltimore, Md.
S. Proctor Brody, pres. and gen. mgr.; A. R. Earnshaw, 1st vice-pres.; Dudly Shoemaker, 2nd vice-pres.; R. W. Alexander, treas.; J. J. Byrne, prod. mgr.; G. L. MacGregor, sales dept.; N. S. Otey, asst. vice-pres. and engr.
Trade name—CALVERT.
High Side
Compressor—reciprocating. *Drive*—V-belt.
Refrigerant—sulphur dioxide.
Motor—¼ hp.
Control—pressure.
Capacities—(ice melting)
Low Side
Method of cooling—direct.
Ice cubes—64 to 160; 6 to 15 lbs.

CASTLE REFRIGERATING MACHINE CO.
1800 W. Washington Ave.
Indianapolis, Ind.
Trade name—CASTLE.
Compressor—reciprocating. *Drive*—belt.
Refrigerant—ammonia. *No. of standard sizes*—10.
Method of cooling—water.
Capacities—(ice melting) 1½ to 14 tons.

CHAMPION ELECTRIC CO.
Helena St. and Diversey Parkway, Chicago, Ill.
High Side
Compressor—reciprocating. *Drive*—gear and belt.
Seal—sylphon. *Refrigerant*—sulphur dioxide.
Motor—⅛ to ⅓ hp. *Condenser*—tube.
Method of cooling—air. *Control*—pressure.
Capacities—(ice melting) 30 to 200 lbs.
Low Side
Method of cooling—direct. *Ice cubes*—36 to 90.

CHICAGO PNEUMATIC TOOL CO.
Detroit, Mich.

CLIMAX ELECTRICAL REFRIGERATION COMPANY
Clinton, Iowa.
Subsidiary of G. W. Dulany Trust
111 W. Monroe St., Chicago, Ill.
G. W. Dulany, Jr., chr. of board; E. B. Mallory, pres.; E. F. Deacon, vice-pres.; E. W. Eberhart, Jr., treas.; J. M. Thomsen, (above at Chicago) secy.; R. L. Alexander, dir. of engr. and mfr.; G. N. Palmer, asst. mgr.; Walter Johnson, pur. agt.; C. W. Albertson, research engr.
Trade name—CLIMAX.



High Side
Compressor—rotary and reciprocating.
Drive—direct and belt.
Refrigerant—ammonia and methyl chloride.
No. of standard sizes—8.
Capacities—(ice melting) 75 lbs. to 4 tons.

COPELAND SILICA GEL CORP.
630 Lycaste Ave., Detroit, Mich.
Trade name—SILICA GEL.
Adsorption type, utilizing gas fuel.
No. of sizes—2. *Refrigerant*—ammonia.

(*Continued on Page* 18)

BIG JOB IS TO SELL REFRIGERATION AS A SERVICE TO THE PUBLIC

A loose-leaf portfolio bearing the title "Bright Thoughts" received from the George B. Bright Co., refrigerating engineers and architects, Detroit, Mich., contains the following two paragraphs in its introduction:

"Things have been and are moving fast in the entire refrigerating field. Three years ago saw the ice industry "run down at the heels" while its new competitor, the mechanical refrigerator, was in its first flush of exultant prosperity. The old established order of things seemed doomed and the extremes of optimism and pessimism were on every hand depending only on which phase of the industry you were most closely interested. Today much of the chaff of competition has blown away and though there is a never-ending group of newly hopefuls entering the mechanically cooled refrigerator field—those most firmly entrenched have settled down to a steadier gait, both as to production, advertising, and ethics. Much good has already come out of it all. The mechanical group have learned a healthier respect and a certain intolerance for the older order of things while he in the industry on the other hand is learning to become a business man—a merchant if you will—finding curiously enough that there is room enough for everybody and that the other fellow's advertising is doing more good than harm.

"On every hand is a growing appreciation of the fact that what we all have to sell is "refrigeration" and not ice as a commodity, not even a machine as such. A great many of you in the ice industry have gone into refrigeration retail sales — a thing we agree you must sooner or later take part—yet many of you have made no inquiry beyond "How much money" and "How much ice will it melt." Few of you have even questioned at what room temperature this "ice saver" was tested to give the data volunteered by the backer of his particular product. Taking the quality of the refrigerators for granted—about your only concern was "How can we sell a lot of them," not "How can we sell the idea of better refrigeration as measured by actually securable temperatures." To say that a refrigerator is insulated with so many inches of cork means little—securable temperatures are "built-in" at the factory by ample air ducts and skillful interior design, not by good insulating materials often poorly handled."

LORCH CONTINUES HEAD OF N. Y. REFRIGERATION COMMITTEE OF N. E. L. A.

Paul Lorch, of the New York Edison Co., has been reappointed chairman of the Refrigeration Committee of the Metropolitan New York Section of the National Electric Light Association for the year of 1928-1929.

Other members of the committee are Thomas J. Daly, Bronx Gas & Electric Co.; J. L. Skoggs, New York Edison Co.; Prescott Beach, New York & Queens Electric Light & Power Co.; Maurice Schwartz, Queensboro Gas & Electric Co.; Crosby Adams, Staten Island Edison Corp.; Joseph Covington, United Electric Light & Power Co.; D. S. Kennedy, Westchester Lighting Co., and U. Kuneman, Yonkers Electric Light & Power Co.

In commenting on the personnel of the committee, Mr. Lorch said: "The committee is particularly fortunate in, with a few exceptions, being able to continue its work with the same membership as it had last year. In our annual report for 1927-1928 we emphasized our desire to carry on without interruption."

ATLAS
REFRIGERATOR CASES

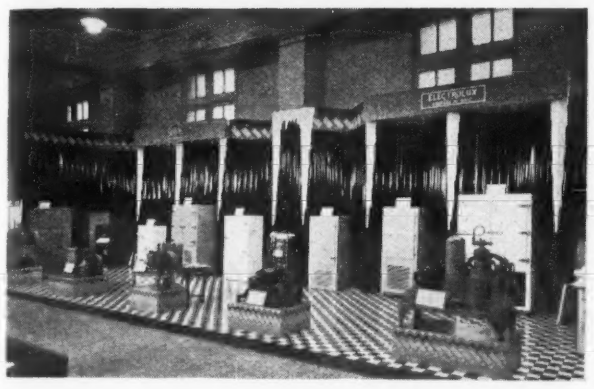
The fact that leaders in the industry are shipping their entire output—large electric refrigerators included—in Atlas Refrigerator Cases is a true indication of the worth of these modern containers. Their general handiness in assembling, their impregnability when packed, their protectiveness, their lightness in weight, their handsome appearance—these are a few of the features that make Atlas Plywood Refrigerator Cases an economy to both manufacturers and dealers.

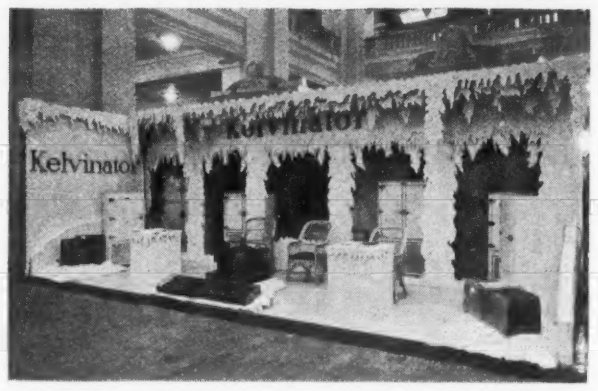
Atlas Refrigerator Cases are made of hardwood plywood reinforced with strong cleating. All cases are made to order. Send us your refrigerator overall dimensions: length (distance across front), width (distance from front to back), and depth (distance from top to bottom). We will build an Atlas Case to fit.

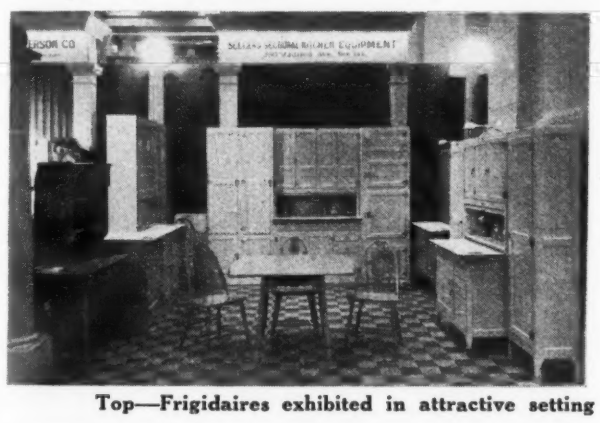
Atlas Packing Cases
CARRY THE WEIGHT - SAVE FREIGHT
ATLAS PLYWOOD CORPORATION
General Offices
PARK SQUARE BUILDING, BOSTON, MASSACHUSETTS
New York Office, 90 West Broadway - Chicago Office, 649 McCormick Bldg. - Southern Division (formerly Empire Mfg. Co.)
Goldsboro, N. C. Branch Factories: Grand Rapids, Mich., Bloomington, Ind., Jamestown, N. Y., and in nine other cities.

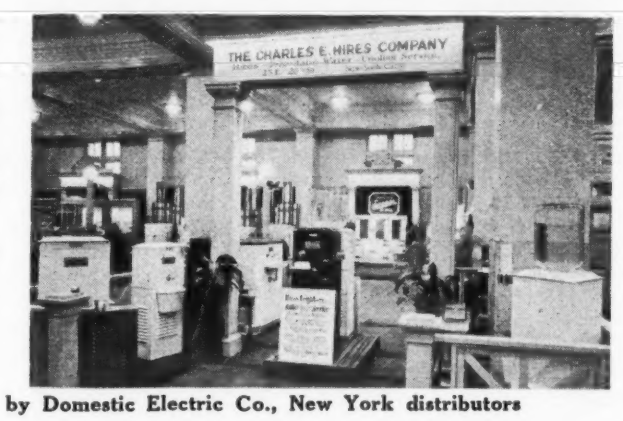
2336

Exhibits at New York Electrical Show









Top—Frigidaires exhibited in attractive setting by Domestic Electric Co., New York distributors

Upper left—Seeger Refrigerator Co., St. Paul, Minn., showed domestic and commercial refrigerators

Upper right—Rice Products, Inc., New York, N. Y., featured the larger sizes of domestic electric units

Left center—Servel Sales, Inc., Evansville, Ind., displayed white and colored Servel and Electrolux machines

Right center—Kelvinator Sales Corp., New York, N. Y., included both domestic and commercial equipment

Lower left—The Sellers Sales Corp., New York, N. Y., showed sectional kitchen equipment in colors

Lower right—Charles E. Hires Co., New York, N. Y., exhibited various models of the Hires-Frigidaire water cooler

REFRIGERATORS WILL HAVE ALL-YEAR-ROUND DISPLAY IN CHICAGO

A permanent refrigerator display and sales market is being planned in the new Merchandize Mart which is to be erected in Chicago.

Under present marketing conditions trade shows are held and manufacturers take expensive displays wherever these shows are and the buyer must go at that time. The Merchandize Mart will have permanent displays and merchandise will be segregated into groupings. The buyer interested in refrigeration will find the manufacturers' displays in one part of the building.

Every possible convenience is to be provided for the buyer of refrigerators—or other merchandise. When he arrives at the Mart he will register, his hotel reservations will be taken care of, his baggage transported to his hotel and placed in his room. Restaurants, lunch rooms, and grills in the building will economize his time. On the first floor will be a barber shop, drug store, branch post office, bank, telegraph office and public stenographers.

The second floor will have space for shows, conventions, and expositions. In the tower of the Mart will be a club room and the roof will be a convention hall. There will be six miles of hallway where manufacturers' exhibits will be displayed.

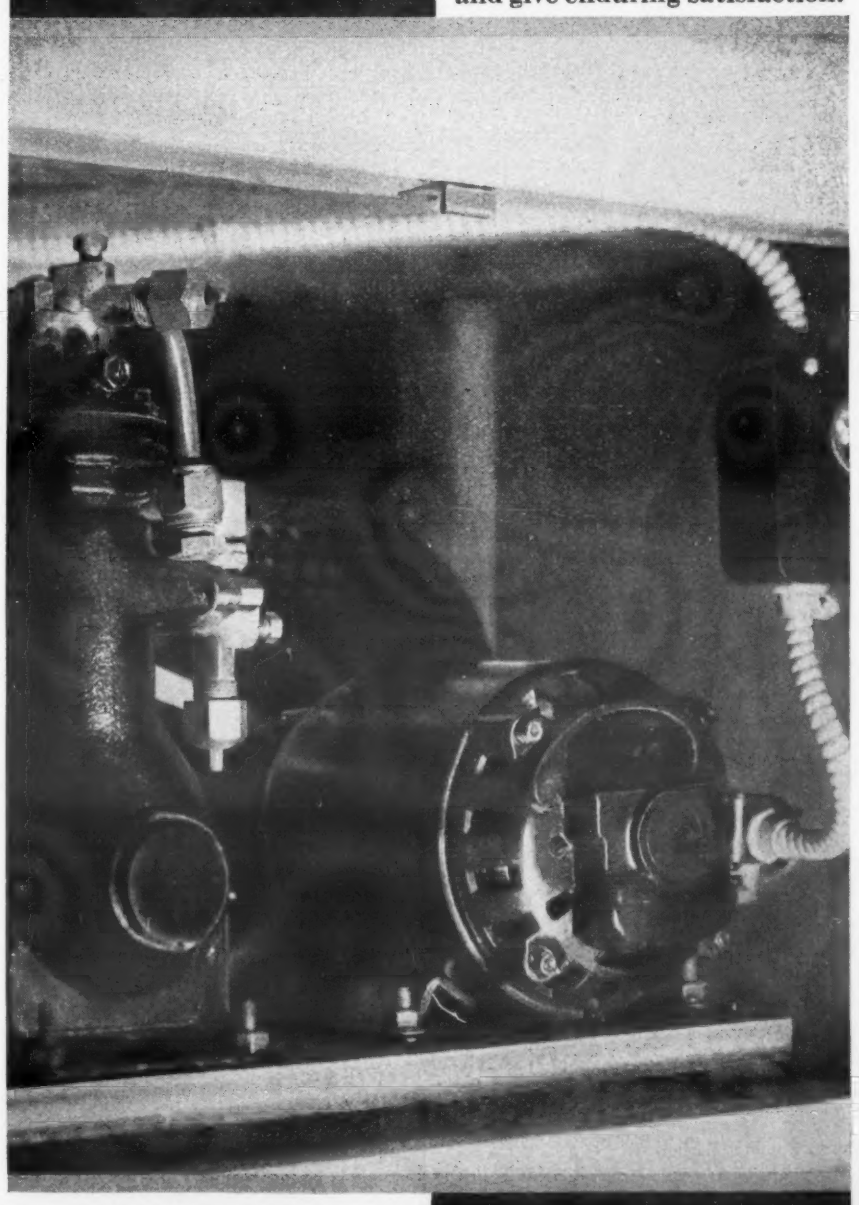
The purpose of the Mart is to bring the buyer to the seller and to bring him oftener. By the continuous display the merchant can choose his time of coming and the manufacturer is always ready for him. The buyer, who, so often is manager of his department, is expected to find it easier to make more frequent, short trips to Chicago rather than once or twice a year spending a longer time.

KEROTEST
FORGED BRASS VALVES
for Mechanical Refrigeration
Quality Shut-off and Cylinder valves in any standard designs or to your specifications.
KEROTEST MANUFACTURING CO.
2525 LIBERTY AVENUE
PITTSBURGH, PENNA.

Seams
in refrigerators are not what they seem. Refrigerator salesmen always have an added advantage when the refrigerator manufacturer uses PEMCO one-piece Porcelain Enamels. Ask us why. Porcelain Enamel & Manufacturing Company, Baltimore, Md.
PEMCO
TRADE MARK REG. U.S. PAT. OFF.

Quiet Motors for Refrigeration

MANUFACTURERS of electric refrigerators who use Wagner motors are enabled to secure from one source both a. c. and d. c. motors . . . interchangeable as to mounting dimensions. Mechanically and electrically quiet, built to close tolerances, lubricated with filtered oil, they operate with high efficiency, high power-factor; and give enduring satisfaction.



Wagner's thirty-eight years of experience in pioneering and building every commercial type of motor can be of value in solving your motor problems. May we serve?

Literature on Request

WAGNER ELECTRIC CORPORATION
6400 Plymouth Ave., St. Louis, U.S.A.

Wagner Sales Offices & Service Stations in 25 Principal Cities

Products: . . FANS . . *Desk, Wall and Ceiling* TRANSFORMERS . . *Power, Distribution and Instrument* . . MOTORS . . *Single-phase, Polyphase and Direct Current*

Wagner ... quality

THOMPSON STRESSES NEED FOR TRADE ASSOCIATION

(*Concluded from Page* 15)

a radio, motor car or an electric refrigerator. If they are the typical American pair of today, it is an easy guess that their dollars will go for the automobile or the radio and that the investment in the refrigerator, if considered at all, will be deferred until their financial condition is a little happier. They feel a greater *want* for an article which will give them apparent standing with their friends and neighbors and which appeals to the pleasure-loving side of us all.

The motor car is an outward evidence of prosperity as is the radio and they both serve a utility with which we are all familiar, yet our hypothetical couple have temporarily neglected a very vital contribution to their health, happiness and well being. The reason why is obvious, the dollars which have been spent in popularizing electric refrigeration, although great in number, have been but few in competition with the existing popular demand for other articles and our industry is suffering from their competition for the public's dollar.

The same situation exists in the intermediate field market, you hear of but few merchants clamoring for refrigeration for their stores, the majority are still content with the older method, the solution is obvious—we still have a stupendous educational job to do and co-operative advertising and promotional effort is the quick road to an early result. Despite the enormous financial interests which are today sponsoring refrigeration, the effort has been diversified and no one group may be expected to take the risk of so vast an undertaking. This industry stands today in *vital need* of a co-operative trade association. and not only to popularize the product but for other reasons I will mention.

There have been attempts in this direction and some exist today, but laggard, because there has never been a complete meeting of the minds of the several interests concerned. Time is changing conditions; let's just for a moment analyze the situation today—here are a number of points for consideration:

1. No one group will be able to dominate the small-unit industry. There is too great financial strength, merit of product and determination of purpose with at least three or four manufacturers to permit this to become possible. We have seen some producers drop out of the picture for various reasons; how do we know but that the phase of consolidation of certain existing interests is not just around the corner, creating other formidable factors?

2. The possibility of a "miraculous invention" turning us topsy-turvey appears extremely remote, even in this day of miracles. Let us assume then that the patent situation of today will continue. This business is free to all comers, basic protection is impossible, yet there is exclusive merit in a number of products.

3. The central station industry has been the chief beneficiary of our efforts. Our creations and co-operative marketing effort with them has placed millions of kilo-watt hours load on their lines in a few short years. They are not ungrateful, their response to the suggestions of the majority group of manufacturers would, I feel confident, be quick and liberal.

4. In the cause of more economical production and installation, the work towards engineering standardization could well be expedited. It today lacks the impetus of hearty enthusiastic effort.

5. Competitive selling practices to the consumer are evidencing that an unstable situation exists here. No industry ever won public confidence by fighting itself, yet I can find for you in an hour's walk a number of salesmen who will tell you that the other fellows gas is "poison," or that the so-an-so unit will blow up, that a brine tank is obsolete or that frost on a coil will double the cost of operation.

And right here is a good place to note that all we sales folks have made chumps of ourselves in the matter of prices to quantity purchasers. I know of builders who have set back in glee and played a most enjoyable game; that of bluffing the various bidders for his patronage and getting an *almost immediate* concession upon saying "Oh! you're way high." There is sufficient merit in every well known product to sell on that basis alone, this type of buyer *must* have refrigeration and the joke is certainly on us if we practically give it to him. This is a serious factor because, as I mentioned awhile ago, there is a high basic production cost back of every successful unit, and a high specialty selling cost back of every one sold whether in lots of one or one hundred.

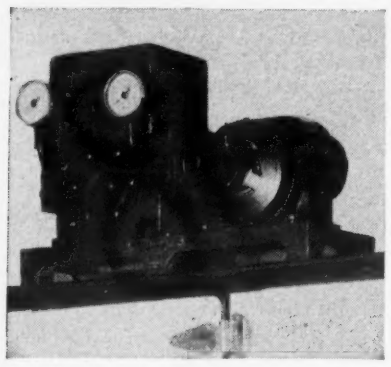
Mr. Charles M. Schwab spoke before the trade association of his industry a few nights ago to tell them of the low financial return on sales effort that let the buyer dominate the market. We let the buyer dominate the market, as example, when we produce and sell apartment house multiple installations and take the dollar he tenders when the same sales effort should have brought us at least a dollar and a half for an individual installation. Now all of these points, and more, show that while we have a grip on a field of enormous potentiality, our way of thinking is still not clear and that we are evidencing growing pains. The sooner we create the means to co-ordinate our efforts to a common end, the sooner our sales will multiply and we will have an enviable place in this race for the public's dollar. We are all concerned, be our jobs technical or sales. This industry needs a trade association that will bring together all the factors at interest. I hope the time is ripe for this to be quickly done and I solicit your support of its early formation.

DIRECTORY
OF MANUFACTURERS AND SPECIFICATIONS OF MACHINES

(*Continued from Page* 16)

COOKE ELECTRIC REFRIGERATION CO.
30 N. Green St., Chicago, Ill.

Trade name—COOKE.

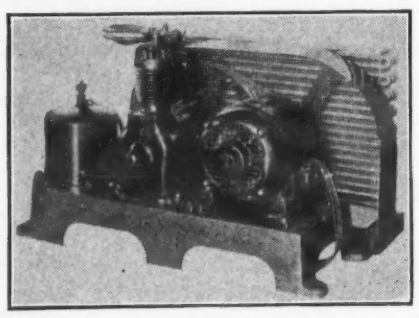


High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—ring. *Make*—Cooke.
Refrigerant—ammonia. *Motor*—⅛ to ¼ hp.
Method of cooling—water. *Control*—temperature.
Capacities—(ice melting) 125 to 350 lbs.
Low Side
Method of cooling—indirect. *Ice cubes*—48 to 72.

COPELAND PRODUCTS, INC.
630 Lycaste Ave., Detroit, Mich.

G. W. Mason, pres.; E. H. Brown, vice-pres., secy. and treas.; W. D. McElhinney, vice pres. and sales mgr.; A. M. Taylor, adv. mgr.; Glenn Muffly, chief engr.; S. W. Taylor, prod. supt.

Trade name—COPELAND.



High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—bellows. *Make*—own.
Refrigerant—methyl chloride.
Motor—⅛ to 1½ hp. *Make*—Day Fan.
Condenser—fin tube and radiator.
Method of cooling—air and water.
Water valve—pressure. *Make*—Cash Acme.
Control—pressure and temperature.
Capacities—(ice melting) 125 to 1200 lbs.
Low Side
Dry and flooded systems
Method of cooling—direct and indirect.
Expansion valve—bellows. *Make*—own.
Float valve—low side.
No. of standard sizes—14 coils, 18 tanks, 7 Zero Tubes.
Freezing trays—2 to 11. *Ice cubes*—30 to 378.

CREAMERY PACKAGE MFG. CO.
1243 W. Washington Blvd., Chicago, Ill.

J. H. Godfrey, director research and publicity.

Trade name—C. P.
High Side
Compressor—reciprocating. *Drive*—belt.
Refrigerant—ammonia or methyl chloride.
No. of standard sizes—4.
Motor—½ to 10 hp.
Condenser—multi-pass shell and tube.
Control—thermostat.
Capacities—(ice melting) ¼ to 5 tons.

CROSLEY RADIO CORP.
Cincinnati, Ohio

Trade name—ICY-BALL.

Powel Crosley, Jr., pres.; Lewis M. Crosley, asst. gen. mgr.

Portable, non-electric, non-automatic, absorption type, the refrigeration cycle being actuated by immersion in hot water.
Refrigerant—ammonia. One size.

CYCLOPS IRON WORKS
San Francisco, Calif.

Trade name—CYCLOPS.
High Side
Compressor—reciprocating. *Drive*—all types.
Refrigerant—ammonia. *Motor*—¾ to 450 hp.
Condenser—double or shell and tube or atmospheric.
Method of cooling—water.
Water valve—pressure on automatic units, hand operated on larger machines.
Make—own.
Control—pressure and temperature. *Make*—own.
Capacities—(ice melting) 500 lbs. to 300 tons.
Low Side
Dry and flooded systems
Method of cooling—direct and indirect.
Expansion valve—diaphragm and hand.
Make—own.

A. J. DEER CO.
Hornell, N. Y.

S. D. J. Dunlap, sales and prod.
Commercial unit—one size.

DE LA VERGNE MACHINE CO.
New York, N. Y.

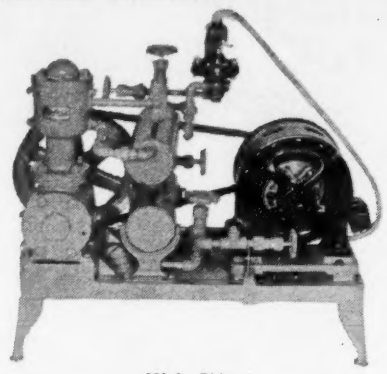
DEVON MANUFACTURING CO.
677 Cambridge St., Worcester, Mass.

Trade name—DEVON.
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—none. *Refrigerant*—pure air.
Motor—¼ hp. *Condenser*—none.
Method of cooling—air. *Control*—temperature.
Capacities—(ice melting) 200 lbs.
Low Side
Method of cooling—direct.

DOLE REFRIGERATING MACHINE CO.
1209 W. Washington Blvd., Chicago, Ill.

Andrew R. Dole, pres.: Herman W. Kleist, vice-pres.; John D. Hollowell, Sr., gen. mgr.; John D. Hollowell, Sr., secy.; Fred H. Tweed, treas.; H. W. Kleist, chief eng. and prod. mgr.; John D. Hollowell, Jr., pur. agt.

Trade name—DOLECO.



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—metallic packing.
Refrigerant—ammonia. *Motor*—¼ to 2 hp.
Condenser—submerged.
Method of cooling—water.
Control—temperature.
Capacities—(ice melting) 250 to 3000 lbs.
Low Side
Method of cooling—direct or indirect.

ELECTROFROST CORP.
Naugatuck, Conn.

Wm. J. Neary, pres.

ELECTRO KOLD CORP.
151 S. Post St., Spokane, Wash.

X. L. Anthony, pres.; L. M. Simpson, vice-pres.; H. L. Masterson, gen. mgr. and adv. mgr.; L. E. Gandy, secy.; E. S. Matthews, treas. and sales mgr.; Manuel Lassen, chief engr.; Harry Gale, prod. mgr.; D. W. Mather, pur. agt.

Trade name—ELECTRO KOLD.
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—disc and spring. *Make*—own.
Refrigerant—sulphur dioxide.
No. of standard sizes—5.
Motor—⅛ to 1½ hp.
Make—Century and Emerson.
Condenser—fin coil and radiator.
Method of cooling—air and water.
Water valve—pressure. *Make*—Peerless.
Control—pressure and temperature. *Make*—own.
Capacities—(ice melting) 25 to 1500 lbs.
Low Side
Dry and flooded systems.
Method of cooling—direct and indirect.
Expansion valve—diaphragh. *Make*—own.
Float valve—low side. *Make*—own.
No. of standard sizes—36.
Freezing trays—1 to 6. *Ice cubes*—18 to 108.

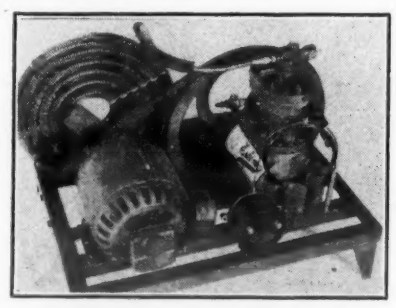
ELECTRO VACUUM REFRIGERATOR, CO., INC.
209 E. 43rd St., New York, N. Y.

L. D. Greenfield, pres.; F. H. Kemp, vice-pres.; A. S. Ferrer, secy.; H. Tucker, treas.; C. A. Eschner, sales and adv. mgr.; E. O. Smith, chief eng.; H. Treganowan, prod. mgr. and pur. agt.

Trade name—ELECTRO VACUUM.
High Side
Compressor—rotary. *Drive*—direct.
Seal—metallic. *Make*—Cooke.
Refrigerant—sulphur dioxide.
No. of standard sizes—6. *Motor*—¼ to 5 hp.
Condenser—shell with fin coil.
Method of cooling—water.
Water valve—pressure. *Make*—Cash & Spense.
Control—pressure and temperature.
Make—American Radiator.
Capacities—(ice melting) 200 to 4000 lbs.
Low Side
Dry and flooded systems.
Method of cooling—direct and indirect.
Expansion valve—diaphragm. *Make*—own.
Float valve—high and low side. *Make*—own.

ESKIMO REFRIGERATION CO.
914 Columbus Ave., Sandusky, Ohio

Trade name—ESKIMO.

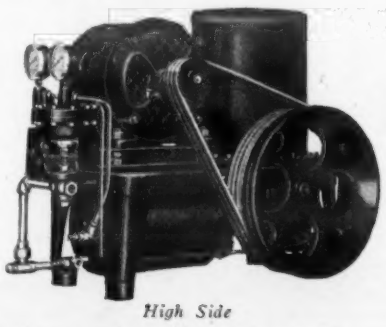


High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ to ⅓ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Capacities*—5 to 40 cu ft.
Low Side
Method of cooling—indirect.
Ice cubes—84 to 300.

EXCELSIOR MOTOR MFG. & SUPPLY CO.
3701 Cortland St., Chicago, Ill.

Ignaz Schwinn, pres. and treas.; F W. Schwinn, vice-pres. and gen. mgr.; J. M. Grossmith, secy.; M. W. Crawford, sales mgr.; W. G. Paulson, adv. mgr.; A. P. Anderson, chief engr. and prod. mgr.; J. E. Anderson, pur. agt.

Trade name—EXCELSIOR.



High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—ring. *Make*—Cooke.
Refrigerant—ammonia.
Motor—½ to 2 hp. *Make*—Century.
Condenser—helical coil.
Method of cooling—water.
Water valve—pressure. *Make*—own.
Control—temperature. *Make*—Federal Mercoid.
Capacities—(ice melting) 500 lbs. to 1 ton.
Low Side
Dry system.
Method of cooling—direct or indirect.
Expansion valve—diaphragm. *Make*—Peerless.
No. of standard sizes—4.
Capacity—(ice melting) 500 to 2000 lbs.

FESSLER MFG. CO.
19th and Central
Kansas City, Mo.

Wm. L. Fessler, pres.; G. H. Gray, gen. sales mgr.

Trade name—FEMCOLD.
High Side
Compressor—reciprocating. *Drive*—belt.
Refrigerant—sulphur dioxide.
No. of standard sizes—1.
Motor—½ hp. *Make*—Century or Wagner.
Condenser—fin tube.
Method of cooling—air.
Control—Penn or Tagliabue.
Capacity—(ice melting per hr.) 10½ lbs.
Low Side
Method of cooling—direct.
No. of standard sizes—3.
Freezing trays—2 to 4. *Ice cubes*—56 to 112.

FRANKLIN AIR COMPRESSOR CORP.
Norristown, Pa.

John J. Williams, pres.; W. W. Moss, vice-pres. and treas.; G. W. Gail, secy. and chief engr.; E. D. Dunning, prod. mgr.; E. S. Lape, sales mgr.

Trade name—KULAIR.
High Side
Compressor—reciprocating. *Drive*—V-belt.
Seal—bellows. *Make*—own.
Refrigerant—sulphur dioxide or methyl chloride.
No. of standard sizes—4.
Motor—⅛ to 2½ hp.
Condenser—fin type.
Method of cooling—air.
Control—thermostat or pressudestat.
Capacities—(ice melting) 124 to 2159 lbs.

FREEZEL CORP.
Gardner, Mass.

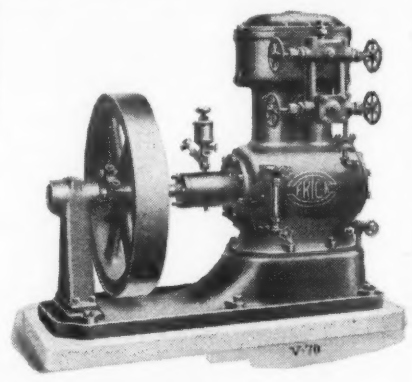
M. D. Pendergast, pres.; M. H. Pendergast, secy.

Trade name—FREEZEL.
High Side
Compressor—reciprocating. *Drive*—V belt.
Refrigerant—methyl chloride or sulphur dioxide.
No. of standard sizes—1. *Motor*—⅛ hp.
Condenser—finned tube. *Method of cooling*—air.
Control—thermostat.
Low Side
Method of cooling—direct.
No. of standard sizes—1. *Freezing trays*—2.

FRICK CO.
Waynesboro, Pa.

Ezra Frick, pres.; J. G. Benedict, vice-pres.; D. N. Benedict, treas. and gen. mgr.; M. E. Gordon, asst. treas.; W. R. Snively, secy.; and G. H. Kuhn, asst. secy.

Trade name—FRICK.



High Side
Compressor—reciprocating. *Drive*—belt.
Compressor—reciprocating. *Drive*—belt and direct.
Refrigerant—carbon dioxide and ammonia.
Method of cooling—water.
Motor—1 hp. and up.

FRIGIDAIRE CORP.
Dayton, Ohio

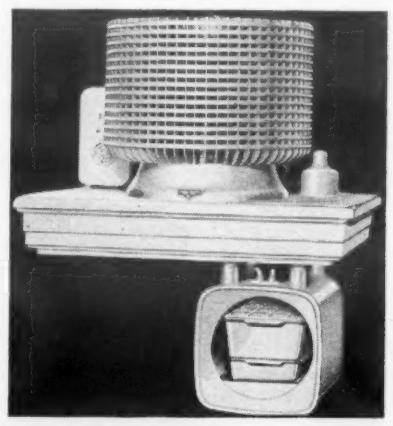
E. G. Biechler, pres. and gen. mgr.; R. D. Funkhouser, vice-pres.; C. F. Kettering, vice-pres.; C. A. Copp, asst. to pres.; J. A. Harlan, distributor sales mgr.; R. F. Callaway, branch sales mgr.; E. D. Doty, adv. mgr.; L. S. Keilholtz, chief engr.; Thos. B. Fordham, work mgr.

Trade name—FRIGIDAIRE.
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—flexible metallic.
Refrigerant—sulphur dioxide.
Motor—⅛ to ½ hp.
Condenser—radiator and fin tube.
Method of cooling—air and water.
Control—pressure and temperature.
Low Side
Method of cooling—direct. *Ice cubes*—30 to 168.

GENERAL ELECTRIC CO.
Electric Refrigeration Dept., Cleveland, Ohio

Gerard Swope, pres.; T. K. Quinn, gen. mgr.; W. W. Trench, secy.; R. S. Murray, treas.; P. B. Zimmerman, sales mgr.; L. R. Edwards, adv. mgr.

Trade name—GENERAL ELECTRIC.



High Side
Compressor—reciprocating. *Drive*—direct.
Seal—hermetic. *Refrigerant*—sulphur dioxide.
No. of standard sizes—3.
Motor—⅛ to ⅓ hp. *Make*—own.
Condenser—plain tube. *Method of cooling*—air.
Control—temperature. *Make*—own.
Capacities—3½ to 18 cu. ft.
Low Side
Flooded system.
Method of cooling—direct and indirect.
Float valve—high side. *Make*—own.
No. of standard sizes—3.
Freezing trays—2 to 4. *Ice cubes*—48 to 112.
Capacity—3½ to 18 cu. ft.

GENERAL REFRIGERATING & MFG. CORP.
411 Kraemer Bldg., Portland, Ore.

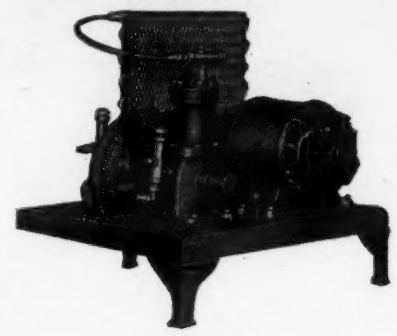
F. W. Revermon, pres.; J. A. Walker, vice-pres.; B. L. Wescott, secy.

Trade name—KING BOREAS.

GENERAL NECESSITIES CORP.
Absopure Frigerator Division
2001 Park Ave., Detroit, Mich.

David A. Brown, pres.; A. E. Cole, gen. sales mgr.; E. E. Von Rosen, secy. and treas.; E. A. Wentworth, advertising; H. C. Hayes, chief engr.; T. S. Pendergast, asst. engr. and service manager.

Trade name—ABSOPURE.

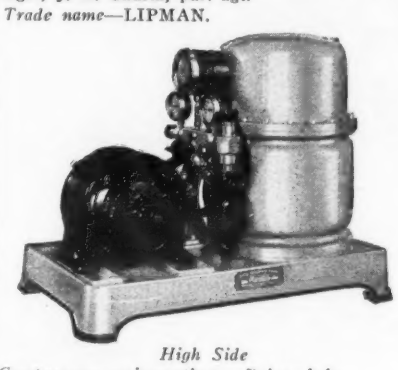


High Side
Compressor—reciprocating. *Drive*—belt.
Seal—bellows. *Make*—own.
Refrigerant—methyl chloride.
No. of standard sizes—5. *Motor*—⅛ to 1 hp.
Condenser—radiator.
Method of cooling—air and water.
Water valve—electric.
Control—pressure and temperature.
Capacities—(ice melting) 100 to 1000 lbs.
Low Side
Dry and flooded.
Method of cooling—direct and indirect.
Expansion valve—bellows.
Make—American Radiator.
Float valve—low side. *Make*—own.
No. of standard sizes—30.
Freezing trays—2 to 7. *Ice cubes*—18 to 189.

GENERAL REFRIGERATOR CO.
Beloit, Wis.

T. E. Swords, pres.; J. R. Morash, vice-pres. and gen. mgr.; J. J. Tyndal, secy.; G. O. Forbes, treas.; W. C. Moore, adv. mgr.; F. E. Dennison, chief engr.; A. L. Shogren, prod. mgr.; J. E. Churm, pur. agt.

Trade name—LIPMAN.

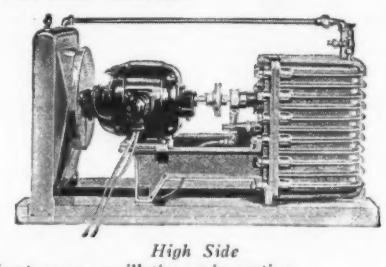


High Side
Compressor—reciprocating. *Drive*—belt.
Seal—oil. *Refrigerant*—ammonia.
Motor—½ to 40 hp.
Condenser—shell and tube, shell and coil.
Method of cooling—water. *Control*—temperature.
Capacities—(ice melting) 500 lbs. to 20 tons.
Low Side
Method of cooling—direct or indirect.

HAVEN MFG. CO.
486 Milwaukee St., Milwaukee, Wis.

C. D. Haven, pres. and gen. mgr.; A. M. Krech, vice-pres.; E. F. Vilter, secy. and treas.

Trade name—HAVEN.



High Side
Compressor—oscillating-reciprocating.
Drive—direct. *Seal*—metallic rings.
Refrigerant—methyl chloride.
No. of standard sizes—4.
Motor—⅛ to ¾ hp. *Make*—Century.
Condenser—radiator.
Method of cooling—air or water.
Control—pressure and temperature.
Capacities—(ice melting) 100 to 400 lbs.
Low Side
Dry system.
Method of cooling—direct and indirect.
Expansion valve—own make.
No. of standard sizes—13.
Freezing trays—4 to 16. *Ice cubes*—40 to 160.

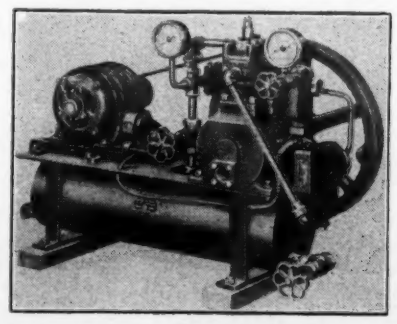
HOLMES PRODUCTS, INC.
2 West 46 St., New York, N. Y.

J. P. Holmes, pres.; J F. Plummer, vice-pres. and gen. mgr.; J. A. Sturges, vice-pres. and adv. mgr.; H. L. Shields, secy. and treas.; J. M. Bickel, sales mgr.; S. Martin, chief engr.; G. Hotte, prod. mgr.; W. B. Flanagan, pur. agt.

Trade name—HOLMES.
High Side
Compressor—rotary. *Drive*—direct.
Seal—hermetic. *Refrigerant*—ethyl chloride.
No. of standard sizes—1.
Motor—⅛ hp. *Make*—Westinghouse.
Condenser—radiator. *Method of cooling*—air.
Control—temperature.
Make—automatic reclosing circuit breaker.
Capacities—4.5 to 7 cu. ft.
Low Side
Flooded system. Method of cooling—direct.
Float valve—high side. *Make*—own.
No. of standard sizes—1.
Freezing trays—4. *Ice cubes*—84.
Capacity—4.5 to 7 cu. ft.

HOWE ICE MACHINE CO.
Chicago, Ill.

Trade name—HOWE.



High Side
Compressor—reciprocating. *Drive*—direct and belt.
Seal—stuffing box. *Refrigerant*—ammonia.
Method of cooling—water.
Capacity—(ice melting) ½ to 6 tons and up.

HVID ICE MACHINE CORP
38 S. Dearborn St., Chicago, Ill.

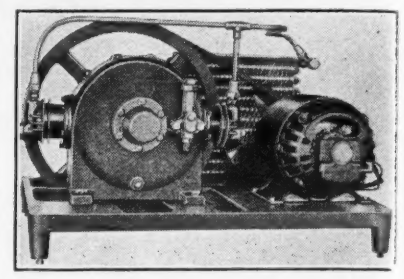
Trade name—HVID.
High Side
Compressor—reciprocating. *Drive*—direct.
Refrigerant—methyl chloride.
Motor—⅛ to ¼ hp.
Condenser—plain tube. *Method of cooling*—air.
Control—temperature. *Capacities*—5 to 12 cu. ft.
Low Side
Method of cooling—indirect.
Ice cubes—49 to 120.

ICELAND MACHINE CORP.
New York, N. Y.

ICELECT CORP.
Omaha, Neb.

A. E. Schneider, pres.; F. J. Schneider, secy. and treas.

Trade name—ICELECT.



High Side
Compressor—reciprocating. *Drive*—belt.
Refrigerant—sulphur dioxide.
Motor—⅛ to ¼ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Capacities*—4 to 15 cu. ft.
Low Side
Method of cooling—direct. *Ice cubes*—56 to 168.

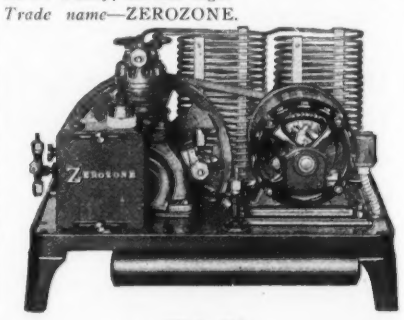
ICEMASTER CO.
Haverhill, Mass.

Trade name—ICEMASTER.
High Side
Compressor—reciprocating. *Drive*—belt or gear.
Seal—metallic. *Make*—own.
Refrigerant—methyl chloride. *No. of standard sizes*—4.
Motor—⅛ to 1 hp. *Make*—Century, Wagner.
Condenser—radiator. *Method of cooling*—air.
Control—temperature. *Make*—Mercoid.
Capacities—(ice melting) 125 to 1,000 lbs.; 5 to 1,000 cu. ft.
Low Side
Dry system. Method of cooling—direct.
Expansion valve—diaphragm. *Make*—Own.
No. of standard sizes—12
Freezing trays—3 to 10; *Ice cubes*—36 to 240.
Capacity—5 to 1,000 cu. ft.; 25 to 750 lbs. (ice melting).

IRON MOUNTAIN CO.
929-1011 E. 95 St., Chicago, Ill.

C. E. Jernberg, pres. and gen. mgr.; O. H. Anderson, vice-pres. and treas.; L. C. Keely, gen. sales mgr.; R. H. Hite, sales prom. mgr.; R. F. Polley, service mgr.

Trade name—ZEROZONE.



High Side
Compressor—reciprocating.
Drive—1 model direct, balance belt.
Refrigerant—sulphur dioxide.
Motor—⅛ to 1½ hp.
Condenser—radiator.
Method of cooling—air and water.
Control—thermostat and pressure.
Capacities—(ice melting) 1000 lbs.
Low Side
Method of cooling—direct and indirect.

JACK FROST REFRIGERATION, LTD.
Toronto, Canada

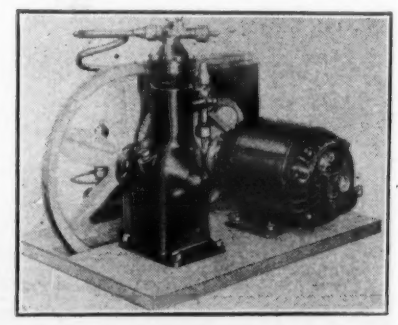
C. A. Lister, pres.; F. H. Willis, vice-pres., treas., gen. mgr. and pur. agt.; W. E. Gorman, secy.; J. C. O'Brien, sales mgr. and chief engr.

Trade name—JACK FROST.
High Side
Compressor—rotary. *Drive*—direct.
Seal—own make *Refrigerant*—sulphur dioxide.
No. of standard sizes—7.
Motor—⅛ to 5 hp. *Make*—Century.
Condenser—plain tube.
Method of cooling—water.
Water valve—electric. *Make*—American Radiator.
Control—pressure and temperature.
Make—Minneapolis & Mercoid.
Capacities—(ice melting) 100 to 4000 lbs; 12 to 3000 cu. ft.
Low Side
Dry and flooded systems.
Method of cooling—direct and indirect.
Expansion valve—diaphragm. *Make*—own.
Float valve—low side. *Make*—own.
No. of standard sizes—25.
Freezing trays—1 to 7. *Ice cubes*—28 to 196.
Capacity—10 to 800 cu. ft., 25 to 400 lbs.

KELVINATOR CORP.
14250 Plymouth Rd., Detroit, Mich.

C. K. Woodbridge, pres. and gen. mgr.; H. W. Burritt, vice-pres. in charge of sales; Merlin Wiley, secy.; B. A. McDonald, treas.; J. A. Corcoran, adv. mgr.; W. D. Mercer, prod. mgr.

Trade name—KELVINATOR.



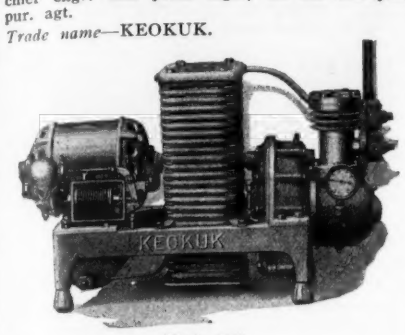
High Side
Compressor—reciprocating.
Drive—belt and worm gear.
Seal—bellows and stuffing box.
Refrigerant—sulphur dioxide.
Motor—⅛ to 1½ hp.
Condenser—radiator.
Method of cooling—air and water.
Control—pressure and temperature.
Capacities—(ice melting) 100 to 1200 lbs.
Low Side
Method of cooling—direct and indirect.
Ice cubes—30 to 84.

DIRECTORY
(Concluded)

KEOKUK REFRIGERATING CO.
Keokuk, Iowa

G. E. Weissenburger, pres. and gen. mgr.; John Dillon, vice-pres., treas., sales and adv. mgr.; J. O. Boyd, secy.; G. L. Weissenburger, chief engr. and prod. mgr.; G. M. Berryhill, pur. agt.

Trade name—KEOKUK.



High Side
Compressor—reciprocating.
Drive—direct connected gear.
Seal—friction. *Make*—own.
Refrigerant—sulphur dioxide.
No. of standard sizes—4.
Motor—⅛ to ⅓ hp. *Make*—Century.
Condenser—tube. *Method of cooling*—air.
Control—thermostat. *Make*—own.
Capacities—(ice melting) 100 to 260 lbs; 5 to 60 cu. ft.

Low Side
Dry system.
Method of cooling—direct.
Expansion valve—diaphragm. *Make*—own.
No. of standard sizes—10.
Freezing trays—2 to 6. *Ice cubes*—36 to 126.
Capacity—8 to 60 cu. ft., 60 to 180 lbs.

KEYSTONE REFRIGERATOR CORP.
Beaver Falls, Pa.

W. B. Atwood, pres. and gen. mgr.; J. Blair Easter, vice-pres. and sales mgr.; G. W. Kilpatrick, secy. and treas.; H. S. Michael, chief eng.

LAMSON CO.
Syracuse, N. Y.

LINDE-DOMESTIC REFRIGERATOR CORP.
Montreal, Canada

McCLELLAN REFRIGERATING CO.
72 W. Adams St., Chicago, Ill.
Chicago, Ill.
W. W. Crawford, pres.

MECHANA-KOLD CORP.
Arcade, N. Y.

S. A. Limpert, pres; A. S. Limpert, vice-pres. and pur. agt.; R. J. Limpert, gen. mgr.; William Ferguson, secy.; W. P. Heinen, treas.

Trade name—MECHANA-KOLD

High Side
Compressor—reciprocating. *Drive*—belt.
Seal—ground ring
Refrigerant—methyl chloride. *No. of standard sizes*—2.
Motor—⅛ to ⅓ hp. *Make*—Wagner.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Make*—own.
Capacities—(ice melting) 200 lbs; 5 to 11 cu. ft.

Low Side
Dry System Method of cooling—direct.
Expansive valve—American Radiator. *No. of standard sizes*—4.
Freezing trays—2 to 4; *Ice cubes*—48 to 192.
Capacity—to 40 cu. ft.

MERCHANT & EVANS
Philadelphia, Pa.

Powell Evans, pres.; Thomas Evans, secy. and gen. mgr.; M. P. Stoney, prod. mgr.; S. J. Benn, ref. engr.; R. S. Brunhouse, sales mgr.

Trade name—M. & E.

MICHIGAN REFRIGERATION, INC.
Grand Rapids, Mich.

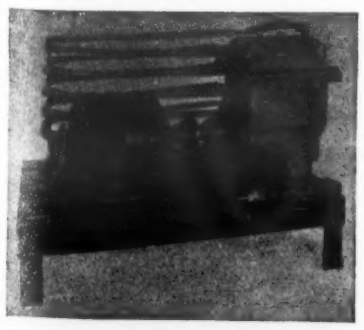
Joseph Renihan, pres.; V. I. Cilley, secy.-treas.; M. D. Greene, prod. mgr.

Trade name—EL-FRIG-ETTE.

NARRAGANSETT MACHINE CO.
Pawtucket, R. I.

A. J. Thornley, pres.; A. E. Thornley, vice-pres.; C. A. Bryant, adv. mgr.

Trade name—CHILRITE.



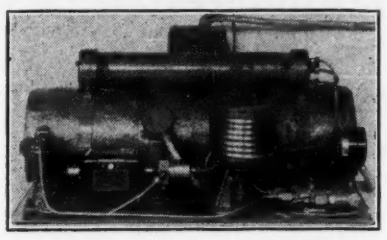
High Side
Compressor—rotary. *Drive*—direct.
Seal—revolving ring. *Make*—Cooke.
Refrigerant—sulphur dioxide Motor—⅛ to ⅓ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Capacities*—(ice melting) 72 to 700 lbs.

Low Side
Method of cooling—direct and indirect. *Ice cubes*—54 to 144.

NATIONAL REFRIGERATING CO.
New Haven, Conn.

W. A. Tobler, pres.; L. H. Thompson, vice-pres.; Edwin Pugsley, vice-pres.; F. H. Knapp, vice-pres. and gen. mgr.; Henry Brewer, secy.; A. E. Hodgson, asst. treas.; L. W. Crenshaw, asst. secy.; G. W. Keller, sales mgr.; John A. Lunn, sales eng.; Dr. W. E. Hainsworth, ref. engr.; C. S. Hutt, adv. mgr.; George H. Reama, works mgr.

Trade name—ICEOLATOR.



High Side
Absorption type, gas operated.
Seal—hermetic.
Refrigerant—anhydrous ammonia.
Condenser—double pipe coil. *Method of cooling*—water.
Water vaive—pressure. *Control*—pressure.
Capacities—(ice melting) 42 to 82 lbs.; 6 to 15 cu. ft.

Low Side
Flooded system. Method of cooling—direct and indirect.
Float valve—high side. *No. of standard sizes.*—5.
Freezing trays—2 to 6; *Ice cubes*—30 to 144.
Capacity—6 to 15 cu. ft.; 42 to 82 lbs.

F W. NIEBLING & CO.
406 Elm St., Cincinnati, Ohio

High Side
Compressor—reciprocating. *Drive*—direct or belt.
Refrigerant—ammonia. *Motor*—¼ to 500 hp.
Condenser—double pipe. *Method of cooling*—water.

Low Side
Method of cooling—direct and indirect.

LUITWIELER CAM PUMP CO.
212 N. Los Angeles St., Los Angeles, Calif.
Samuel W. Luitwieler, pres.

Trade name—CALIFORNIA PRIDE.

High Side
Compressor—reciprocating. *Drive*—cam.
Refrigerant—sulphur dioxide.
No. of standard sizes—6.
Condenser—radiator type.
Method of cooling—air.

NORGE CORPORATION
670 E. Woodbridge St., Detroit, Mich.

E. E. McCray, chairman of the board; Howard E. Blood, pres. and gen. mgr.; J. Walter Drake, vice-pres.; C. D. Donovan, secy.; R. E. Davis, treas.; L. W. Ward, sales mgr.; R. G. Nelson, chief engineer.

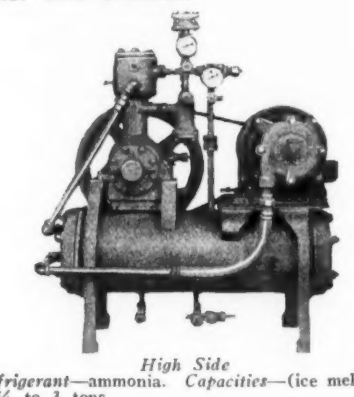
Trade name—NORGE.

High Side
Compressor—rotary. *Drive*—belt.
Seal—bellows. *Refrigerant*—sulphur dioxide.
Motor—⅛ to 1 hp. *Condenser*—radiator.
Method of cooling—air. *Control*—pressure.
Capacities—(ice melting) 125 to 740 lbs.

Low Side
Method of cooling—direct. *Ice cubes*—56 to 212

PARKER ICE MACHINE CO.
San Bernardino, Calif.

Trade name—PARKER.

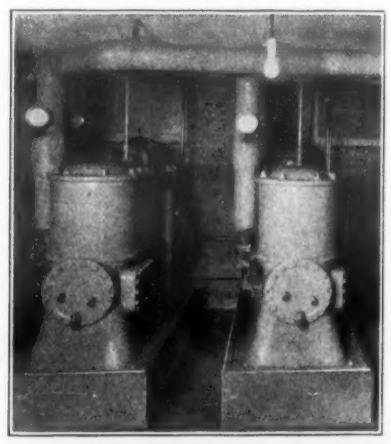


High Side
Refrigerant—ammonia. *Capacities*—(ice melting) ½ to 3 tons.

PEERLESS ICE MACHINE CO.
515 W. 35th St., Chicago, Ill.

C. C. Kritzer, pres., gen, mgr. and treas.; R. W. Kritzer, vice pres., sales and adv. mgr.; H. E. Kritzer, secy.; R. C. Haimbaugh, chief engr.; A. Hoesel, prod. mgr.; L G. Slaman, pur. agt.

Trade name—PEERLESS.



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—stuffing box. *Make*—own.
Refrigerant—ammonia and methyl chloride.
No. of standard sizes—4. *Motor*—1 to 25 hp.
Condenser—welded pipe. *Method of cooling*—water.
Water valve—pressure diaphragm. *Make*—own.
Control—pressure and temperature. *Make*—own.
Capacities—(ice melting) 1,000 lbs. to 12 tons.

Low Side
Flooded system.
Method of cooling—direct and indirect.
Expansion valve—diaphragm. *Make*—own.
Float valve—low side. *Make*—own.
No. of standard sizes—4.
Freezing trays—2 to 20; *Ice cubes*—24 to 240.
Capacity—2 to 25 cu. ft.

PERFECTION STOVE CO.
Cleveland, Ohio.

Trade name—SUPERFAX.

Kerosene burning absorption unit for domestic use.

PHOENIX ICE MACHINE CO.
2711 Church Ave., Cleveland, Ohio.

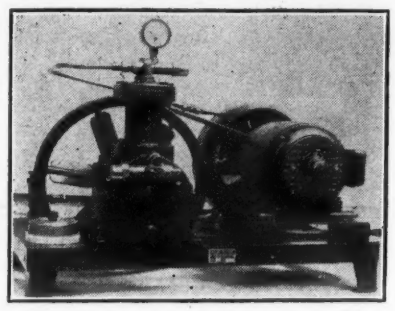
Trade name—PHOENIX.

High Side
Compressor—reciprocating. *Drive*—belt.
Refrigerant—ammonia. *Motor*—¼ to 75 hp.
Condenser—shell and tube. *Method of cooling*—water.
Control—temperature.
Capacities—(ice melting) 500 lbs. to 50 tons.

POLARAIRE ELECTRIC REFRIGERATOR CO.
1610 North St., Philadelphia, Pa.

L. V. Gillian, pres.; F. N. Minor, vice-pres.; R. M. Cook, secy.-treas.

RAUF MANUFACTURING CO.
Bogota, N. J.



High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—bellows. *Refrigerant*—sulphur dioxide.
Motor—⅛ to ¼ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Capacities*—5 to 20 cu. ft.

Low Side
Method of cooling—indirect. *Ice cubes*—42 to 180.

RICE PRODUCTS, INC.
315 Beaubien St., Detroit, Mich.

I. L. Rice, Jr., pres.; T. E. Carpenter, vice-pres. and gen. mgr.; Julian Rice, secy.; H. C. Clappison, sales mgr.; James H. Frazier, adv. mgr.

Trade name—RICE.

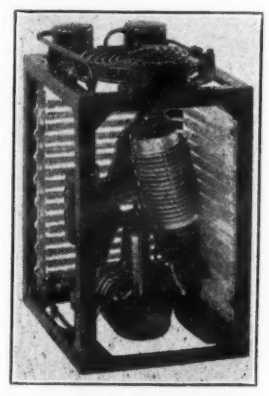
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ to 1 hp. *Condenser*—fin tube.
Method of cooling—air.
Control—pressure and temperature.
Capacities—(ice melting) 200 to 1,000 lbs.

Low Side
Method of cooling—direct. *Ice cubes*—36 to 240.

SAVAGE ARMS CORP.
Utica, N. Y.

W. L. Wright, pres.; F. R. Phillips, vice pres.; F. F. Hickey, gen. mgr.; J. H. Cook, secy. and pur. agt.; E. A MacDonald, treas.; R. B. Wooley, adv. mgr.; R. W. Ayres, chief engr.; C. A. Baldwin, prod. mgr.

Trade name—SAVAGE.



High Side
Compressor—mercury type. *Drive*—friction.
Seal—hermetic. *Refrigerant*—methyl chloride.
Motor—¼ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Make*—Mercoid.
Capacities—from 2 to 10 hole ice cream cabinets.

Low Side
Flooded system. Method of cooling—freezing jelly
Float valve—high side. *Make*—own.

SCHURTZ SYSTEM OF REFRIGERATION
P. O. Box 874, Kansas City, Mo.

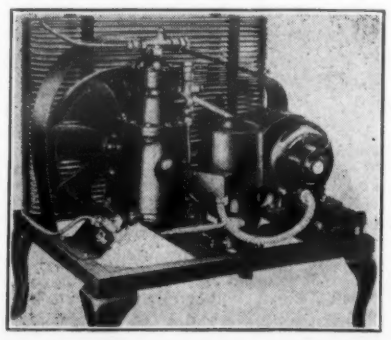
Trade name—SCHURTZ.

Ammonia absorption type unit operating on gas, kerosene, steam or gasoline.

SERVEL SALES, INC.
Evansville, Ind.

F. E. Smith, pres.; W. F. Thatcher, vice pres.; H. W. Foulds, vice-pres.; D. L. Adkins, secy.; P. Newhall, treas.; W. Reynolds, adv. mgr.; F. B. Nehrbas, prod. mgr.; A. R. Sager, pur. agt.

Trade name—SERVEL



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—sylphon. *Make*—own.
Refrigerant—methyl chloride. *No. of standard sizes*—9.
Motor—⅛ to 1 hp. *Make*—General Electric.
Condenser—radiator. *Method of cooling*—air or water.
Water valve—pressure. *Make*—Cash.
Control—pressure or temperature. *Make*—Penn or B. & B.
Capacities—(ice melting) 75 to 800 lbs. per 16 hours.

Low Side
Flooded system. Method of cooling—direct.
Float valve—low side. *Make*—own.
No. of standard sizes—5.
Freezing trays—4 to 16; *Ice cubes*—48 to 192.

SERVEL, INC.
Evansville, Ind.

Trade name—ELECTROLUX.

High Side
Absorption type, gas operated.
Refrigerant—ammonia.
Method of cooling—water.
Control—temperature. *Capacities*—(ice melting) 50 to 100 lbs.

Low Side
Method of cooling—direct. *Ice cubes*—32 to 100.

SHARPLES SEPARATOR CO.
West Chester, Pa.

A. M. Fitzpatrick, secy.

STROH PRODUCTS CO.
Detroit, Mich.

Trade name—STROH.

High Side
Compressor—rotary. *Drive*—belt.
Refrigerant—sulphur dioxide or methyl chloride.
Motor—⅓ hp. *Method of cooling*—air or water.
Control—pressure. *Make*—American Radiator.

Low Side
Flooded system.

SUPERIOR ICELESS REFRIGERATOR, INC.
Canton, Ohio

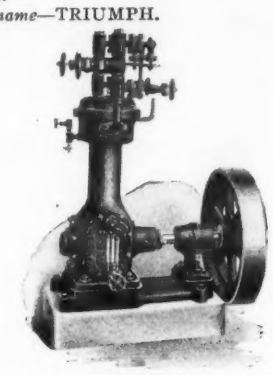
Trade name—SUPERIOR.

Chas. A. Kolp, pres.; Edward L. Frantz, exec. vice-pres.; E. E. Quirk, secy.; Frank Zink, treas.; W. F. Marr, sales mgr.; Geo. Lee Miller, works mgr.; J. E. Massey, prod. mgr.

TRIUMPH ICE MACHINE CO.
110 E. 70th St., Cincinnati, Ohio.

J. C. Hobart, pres. and gen. mgr.; G. P. Hunt, vice pres. and treas.; E. W. Hobart, secy.; J. O. Schultz, sales mgr. and chief engr.; T. Fletcher, pur. agt.

Trade name—TRIUMPH.



High Side
Compressor—reciprocating. *Drive*—direct or belt.
Seal—fibrous packing. *Refrigerant*—ammonia.
Condenser—shell and tube, double pipe and atmospheric.
Method of cooling—water. *Control*—temperature.
Capacities—(ice melting) 1 to 150 tons.

Low Side
Method of cooling—direct or indirect.

TRUPAR MANUFACTURING CO.
140 Davis Ave., Dayton, Ohio

Trade name—TRUPAR.

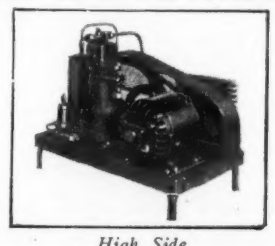
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—mechanical. *Refrigerant*—sulphur dioxide.
Motor—⅛ to 1½ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—pressure.
Capacities—(ice melting) 500 to 1,000 lbs.; 5 to 25 cu. ft.

Low Side
Method of cooling—direct. *Ice cubes*—36 to 96.

UNIVERSAL COOLER CORP.
1214 18th St., Detroit, Mich.

C. G. Dunham, pres.; C. M. Johnston, vice pres. and gen. mgr.; J. W. Taylor, asst. gen. mgr.; L. D. Cook, asst. treas.; Harry Thompson, chief engr.

Trade name—UNIVERSAL COOLER.



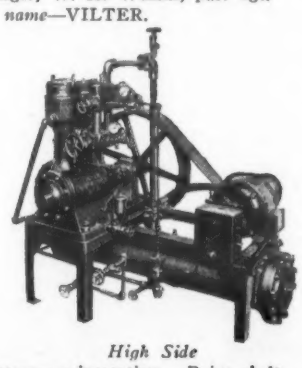
High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ to ½ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—pressure or temperature.
Capacities—(ice melting) 105 to 500 lbs.

Low Side
Method of cooling—indirect. *Ice cubes*—28 to 126.

VILTER MANUFACTURING CO.
Milwaukee, Wisc.

Emil Vilter, pres.; E. F. Goes, vice pres.; W. O. Vilter, secy. and treas.; H. Sloan, adv. engr.; W. R. Kremer, sales mgr.; N. H. Hiller, Jr., adv. mgr.; J. G. Keller, chief engr.; W. F. Steel, prod. mgr.; W. H. Wenzel, pur. agt.

Trade name—VILTER.



High Side
Compressor—reciprocating. *Drive*—belt.
Seal—stuffing box. *Make*—Crane packing.
Refrigerant—ammonia.
Motor—1½ up.
Condenser—horizontal multipass. *Method of cooling*—water.
Water valve—pressure.
Control—pressure and temperature.
Capacities—(ice melting) 1500 lbs. up.

Low Side
Flooded system.
Method of cooling—direct or indirect.
Expansion valve—diaphragm.

WARNER STEEL PRODUCTS CO.
Ottawa, Kans.

Trade name—SURE COLD.

High Side
Compressor—reciprocating. *Drive*—belt.
Seal—bellows. *Refrigerant*—sulphur dioxide.
Motor—⅛ to 3 hp.
Condenser—fin tube. *Method of cooling*—air.
Control—pressure.
Capacities—(ice melting) 25 to 2,000 lbs.

Low Side
Method of cooling—direct. *Ice cubes*—28 to 100.

WAYNE HOME EQUIPMENT CO.
Fort Wayne, Ind.

Gustave A. Berghoff, pres.; Ben F. Geyer, vice-pres.; John A. Berghoff, treas.; Leon J. Baker, secy.

Trade name—WAYNE.

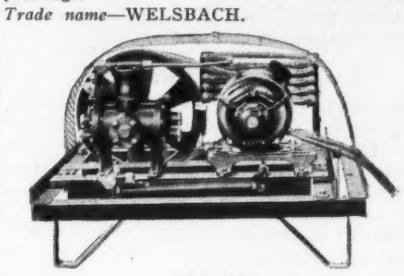
High Side
Compressor—reciprocating. *Drive*—belt.
Seal—sylphon bellows.
Refrigerant—sulphur dioxide. *Motor*—⅛ to ¾ hp.
Condenser—radiator. *Method of cooling*—air.
Control—temperature. *Capacities*—5 to 100 cu. ft.

Low Side
Method of cooling—indirect. *Ice cubes*—56 to 280.

WELSBACH COMPANY
Gloucester City, N. J.

Sidney Mason, pres.; Townsend Stites, vice pres.; R. W. Baker, gen. supt.; G. W. Curran, secy.; I. W. Morris, treas.; F. A. Wegener, chief engr.; Whitney Kirk, pur. agt. refrigeration division; H. R. Lukens, gen. mgr.; R. R. Thompson, sales mgr.; W. R. M. Very, sales pro. mgr.

Trade name—WELSBACH.



High Side
Compressor—reciprocating—double acting
Drive—belt.
Seal—sylphon. *Make*—own.
Refrigerant—alcozol. *No. of standard sizes*—7.
Motor—⅛ to 1 hp. *Make*—Century, Emerson, G. E., Wagner.
Condenser—fin tube and radiator.
Method of cooling—air.
Control—temperature. *Make*—own.
Capacities—(ice melting) 112 to 960 lbs.

Low Side
Dry system.
Method of cooling—direct and indirect.
Expansion valve—bellows. *Make*—own.
No. of standard sizes—15.
Freezing trays—2 to 6; *Ice cubes*—42 to 126.
Capacity—8 to 40 cu. ft.

WHITEHEAD REFRIGERATION CO.
3730 Woodward Ave., Detroit, Mich.

Trade name—WHITEHEAD.

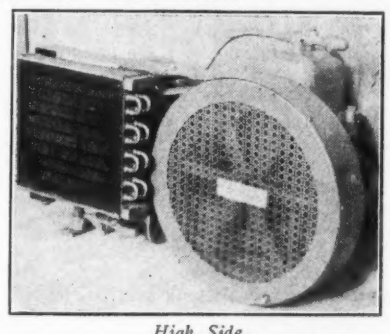
High Side
Compressor—reciprocating. *Drive*—direct.
Seal—internal sylphon. *Refrigerant*—methyl chloride.
Motor—⅛ to ¼ hp.
Condenser—fin tube. *Method of cooling*—air.
Control—temperature. *Capacities*—(ice melting) 25 to 100 lbs.

Low Side
Method of cooling—indirect. *Ice cubes*—96 to 192.

WILLIAMS OIL-O-MATIC HEATING CORP.
Bloomington, Ill.

C. U. Williams, pres.

Trade name—ICE-O-MATIC.



High Side
Compressor—reciprocating. *Drive*—V belt.
Seal—bellows. *Refrigerant*—methyl chloride.
Motor—¼ to ½ hp.
Condenser—radiator. *Method of cooling*—air.
Control—temperature.

Low Side
Method of cooling—direct. *Ice cubes*—82 to 146.

WOLFE ENGINEERING & MFG. CO., INC.
1408-14 Vernon St., Harrisburg, Pa.

H. W. Wolfe, pres., gen. mgr. and chief engr.; Fred Graupner, vice pres.; William Graupner, secy.; E. E. Hershey, treas.; C. M. Dinkelman, sales mgr.; R. C. Wallower, adv. mgr.; E. E. Miller, prod. mgr.; H. T. Ramsey, pur. agt.

Trade name—WOLFE.

High Side
Compressor—reciprocating. *Drive*—V and flat belt.
Seal—ground joint.
Refrigerant—Ammonia and sulphur.
No. of standard sizes—8.
Motor—¼ to 30 hp. *Method of cooling*—air and water.
Control—manual and automatic.
Capacities—(ice melting) 100 lbs. to 15 tons.

Low Side
Dry and flooded systems.
Method of cooling—direct and indirect.
Expansion Valve—diaphragm and bellows.
Float valve—low side.
No. of standard sizes—8. *Capacity*—100 lbs. to 15 tons.
Also commercial gas and oil burning machines of the intermittent absorption type.

X. L. REFRIGERATING CO., INC.
1834-42 W. 59th St., Chicago, Ill.

G. M. Hilger, pres., gen. mgr. and pur. agt.; O. T. Hilger, vice pres.; R. G. Hilger, secy., sales and adv. mgr.; O. T. Ries, treas.; W. H. Motz, chief engr.; Roy Stove, prod. mgr.

Trade name—X. L.

High Side
Compressor—reciprocating. *Drive*—belt.
Seal—oil.
Refrigerant—methyl chloride. *No. of standard sizes*—6.
Motor—½ to 15 hp. *Make*—Imperial.
Condenser—shell and tube. *Method of cooling*—water.
Water valve—pressure. *Make*—own.
Control—pressure.
Capacities—(ice melting) 500 lbs to 10 tons.

Low Side
Flooded system. Method of cooling—direct.
Float valve—low side. *Make*—own.
No. of standard sizes—2.
Freezing trays—2 to 4; *Ice cubes*—24 to 48.

YORK ICE MACHINERY CORP.
York, Pa.

C. O. Fehl, gen. sales mgr.; Sid Lebair, sales mgr.

Trade name—YORK.
Compressor—reciprocating. *Drive*—belt.
Motor—1 hp. and up.
Method of cooling—air and water.

ZEROAIRE CORP.
Springfield, Mass.

W. M. Tippett, pres.; P. G. Jacobson, vice-pres.; C. W. Johnson, secy.-treas. and sales mgr.; J. H. Dennedy, chief engr.